

URBAN/MUNICIPAL

CAB ONHW W80
96 541

LABOUR MARKET INFORMATION
FOR
HAMILTON-WENTWORTH

THE SKILL CHALLENGES OF THE ENVIRONMENT AND THE INFORMATION AGE

Prepared by tranSKILLS

LABOUR MARKET INFORMATION
FOR
HAMILTON-WENTWORTH


THE SKILL CHALLENGES
OF THE
ENVIRONMENT
AND THE
INFORMATION AGE

PREPARED FOR tranSKILLS


WRITTEN BY Larry Meyer
with input from Linda Moore

RESEARCH TEAM

Cheryle Armes (Coordinator), Heather Bastedo, Tom Cooper,
Todd Dingman, Donald Logue, George Sanford,
Richard Sayej and Patricia Turcotte



Digitized by the Internet Archive
in 2024 with funding from
Hamilton Public Library



<https://archive.org/details/labourmarketinfo00unse>

tranSKILLS would like to gratefully acknowledge the support and cooperation of area business which generously donated of their time to make this report possible.

We would also like to thank the local Canada Employment Centre for its support, guidance and assistance in carrying out this project.

This project has been jointly funded by tranSKILLS, Employment and Immigration Canada and the Ministry of Skills Development.

PREFACE

The Process

"If a man will begin in certainty, he shall end in doubts; but if he will be content to begin with doubts he shall end in certainties."

Francis Bacon

Before this latest attempt at collecting labour market information began many doubts existed. In question was the traditional way labour market data was collected then subsequently used. The old styles of determining the impact of change, in this case on skills, required a new blue print. This is an attempt to begin mapping that blueprint.

The impact change has had on our labour market and subsequent skill building activities has forced us to look at initiatives that require new ways of gathering data and determining what we do with it once it is gathered. A piece of this new blueprint was to go to those with the expertise, especially in research and development of new products and services specific to the environment, and tap into their knowledge. By preparing a series of questions, in effect a survey to prepare us for a survey (Appendix 1), we were able to put together a number of fact sheets (Appendix 2) which we could present to business during personal interviews. The process of meeting with experts also assisted us in preparing a better survey to take to business (Appendix 3).

This assessment did not set out just to answer questions. We were looking for help in determining the new questions to ask and hopefully challenge ourselves and others to develop a process to ask the most pertinent questions to be followed by new solutions. This is one small step, but the first, in exploring new ways to develop information and make use of it.

We did not restrict ourselves to scientific methodologies. Our intent was to determine what was really relevant and how to use what we found in the best way possible. One standard of information is that it is only as good as it's ability to be implemented. So, if information is collected that is not actionable by those who can make a difference, it has little value. To use the jargon of the day, we only wanted information that was value added.

As with any new approach or change there is a degree of discomfort and uncertainty. For that reason we owe a debt of thanks to Employment and Immigration Canada and the Ministry of Skills Development for their courage in supporting us in this first step.

We also challenge others to take similar steps, to start asking the right questions, finding the right answers and developing new ways to solve our training concerns.

EXECUTIVE SUMMARY

INTRODUCTION

Profound changes are taking place in the labour market and economies of Canada and the rest of the world. These developments in turn have far reaching effects on the skills needed in the workplace and on the skill building process in the educational system and in the firms themselves. In view of what many observers believe is a new era in the society and economy of Canada, there is a concern that the education and training system in this country is not adequate to play its expected role in assuring individual opportunity, in promoting growth and prosperity in the economy as a whole, and in strengthening the country's ability to compete globally.

The pace of change has many propellants. New technology, increased competition and international trade, a shift in the nature of markets and consumer demand are each contributors toward a rise in the level of change and a general feeling of uncertainty. The effects of keeping pace with this change in the workplace have been well documented. Human responsibilities and skill requirements are increasing and, at the same time, becoming less job specific. Job assignments are becoming more flexible and overlapping, and employees are spending more time interacting with one another and with customers.

This report is focused on one driver of change; the environment. The impact of the environment on business comes in many forms. There is an increasing public demand, with corresponding legislative initiatives, to conduct the affairs of both home and shop in a more sustainable fashion. New technologies, processes, and laws relating to the environment are presenting themselves to business at a pace unseen in the past. The effect this is having

on the skill demands in business is what we sought to explore.

This exploration was centered predominantly around small business. As the primary generators of new jobs in Canada, small business plays a vital role in the introduction of workplace skills. Traditionally, its limited resources and limited access to information relevant to its needs, hampered its ability to respond to change. The blueprint of using this survey as a form of information exchange is one attempt at addressing this situation.

METHODOLOGY AND SCOPE

tranSKILLS contacted by phone approximately 2,000 area companies to arrange 317 personal interviews, or a response rate of 16 per cent. Surveyed companies were selected by sector and include automotive service, health care, construction, heating, refrigeration and air conditioning, electronics and environmental service. Small businesses employing between 1-20 people were primarily targeted but the survey did not restrict itself to this group. Businesses were selected randomly and an attempt was made to survey the owner or senior personnel.

Respondents were not limited to one answer in all cases therefore discrepancies (i.e. percentages totaling over 100%) may occur. Some employers also chose not to provide complete company information or to answer all of the questions.

FINDINGS

Information & Tactile Industries

The continued shift from a traditional manufacturing based economy to a multi-structured economy, based on the emerging information and technology age, appears to be leaving in it's wake a new type of poor...the information poor.

Small business in the tactile industries where a learned "hands-on" skill is applied, such as construction trades or automotive service, appear to be at a disadvantage when dealing with information. This is borne out in a number of survey areas where the tactile industries are experiencing information deficits when compared to industries such as health care and financial, where large amounts of information, in it's traditional written or electronic form, are processed on a daily basis.

For the sake of comparison the "tactile" industries include automotive service, construction, heating, refrigeration and air conditioning and electronics. Health care and finance are being referred to as "information" industries.

Difficulties and Barriers

When asked which areas of environmental legislation companies found most difficult the tactile industries consistently had more difficulty in keeping on top of new laws and dealing with increased paperwork than did the information industries. They also saw information barriers to training, such

as a difficulty in assessing needs, a lack of information about programs and a lack of technical knowledge, in higher proportions than did the information industries. The tactile group also saw issues concerning time and money, such as increased fees, taxes and the cost of compliance as difficult while both groups (with the exception of the financial sector) perceived bottom line issues, such as a lack of financial resources and the inability to give time off for training, as large barriers to training.

The information based sector also saw a greater correlation between the introduction of new technology and the introduction of new processing methods. For example, 63 per cent of health care companies anticipated introducing new equipment within the year and 56 per cent of those companies were planning on introducing new processing methods. In comparison while 53 per cent of heating, refrigeration and air conditioning companies indicated they would be bringing in new equipment, only 13 per cent planned on new processing methods, automotive was a 51% to 18% ration and electronics 58% to 17%. These figures introduce new questions. If new technology is expected to have an impact on business operations, is there a corresponding impact on process? How is training being supplied on the new equipment? Is it transferable and generic or specific to a manufacturer? What role could training institutions, such as community colleges play in linking the introduction of new equipment to new processes?

Traditional means of relaying information to small business in the tactile industries does not appear to be very effective. Governments, bureaucracies and regulating agencies, as information and service industries, are disseminating information on their terms without enough consideration to its adaptability. Survey results indicate that most industries consider

environmental compliance a costly and time consuming activity. Therefore it is important that new methods be developed that are proactive instead of punitive in their approach. Small business in the tactile skill areas needs to be communicated with on business terms and in their own language. Legislation that is enacted should come with information and skill building supports which provide business with a clear opportunity to adapt to change. This information should be passed along in a fashion that details benefits and shows long term profitability through environmental adaptation. Governments must also look at what they are doing to help with the increased paperwork they are demanding.

Environmental Responsibilities

Tasks and Training

When asked which type of environmental training would most benefit their company, disposal alternatives and legislative compliance consistently ranked high in each sector. Other areas, such as hazardous waste management, emissions, testing procedures and air quality control, were seen as training requirements only in specific sectors.

The trend across each sector when dealing with in-house environmental issues was to assign particular tasks to a staff member and make the chore a piece of their job function. The overall responsibility for environmental issues within a company and the responsibility for carrying out environmental activities were spread across a range of occupations within each sector. Overwhelmingly, with the exception of the environmental sector, no industry saw a need to hire an environmental specialist. This

approach makes it easier for companies to deal with increasing environmental activity by spreading the workload around. However, it risks creating a low priority for environmental tasks.

This method of integrating environmental tasks into diverse occupations presents itself as an opportunity to approach environmental training in a much broader fashion. Introducing a component of environmental training into all skill programs, from apprenticeable trades to computer training, can provide business with the long term tools for sustainable development. This training should go beyond compliance and focus on environmental adaptability.

Identifying Skills

When asked how many people overall on their staff required skills upgrading a high majority of businesses across each sector indicated either all or some of their staff needed some form of training. Responses ranged between 71 to 91 per cent with the exception of the construction sector where only 60 per cent of respondents indicated a need for some or all of their staff be upgraded. This tends to be consistent with the nature of the construction industry as there is little room for on-the-job training in a recessionary and highly competitive climate.

While the ability of most sectors to identify that they needed skills upgrading identifying what those skills are was not as easy. Across the board, each sector listed computer upgrading as a common skill need, but there were few other common skills listed. This is also supported by the number of companies indicating a lack of technical knowledge or a difficulty in

assessing needs as a barrier to environmental training. In reality, they may not have the knowledge to identify what skills their workforce requires.

This presents an opportunity to develop new approaches to needs identification as existing methodologies do not provide enough information for employers to conduct a skills audit of their workplace. Surveys of this type, where information was exchanged, can be expanded to assist business in identifying the strengths and gaps of skills within their organization. This would allow for wiser training and hiring decisions on the part of business and would assist training institutions and agencies in their planning.

The Three "R's" and Other Environmental Practices

Sustainable development has been described as "policies that link a healthy environment to a healthy economy and prescribe growth without long term environmental damage." Essentially it means making sure there is still a planet on which to do business. It has only been very recently that sustainable development has become part of business planning with the three "R's" being an easy focal point. However, there still appears to be a long way to go. Across the board, companies were actively involved in recycling programs. But, strategies for reduction, re-use and material substitution lagged a fair way behind in most industries.

It is important that business be given the knowledge that the creation of wealth has to be accomplished without the creation of damaging by-products. The media and awareness campaigns that raised the level of understanding for recycling programs should be followed up with equally active campaigns geared to the reduction and elimination of waste, whether through re-use, material substitution or new products and processes. Again, this awareness

should be integrated into training in all forms, whether in the trades, education systems or private sector. Sustainable development practices must become the norm.

The Survey Process

The need to supply business with applicable information is critical. As demonstrated by survey respondents, information that exists in a form that doesn't relate to business, particularly small business, or can't be easily applied is useless. Our attempt at a new blueprint for conducting a labour market needs survey, that is, by providing pertinent information to business so that they could make a more informed decision when determining what training they need, appears to have been a success. The majority of businesses surveyed indicated that they found the information helpful or somewhat helpful. It is critical that other new means of information exchange also be explored. We cannot afford to become bogged down in systemic requirements or scientific methodologies that do not facilitate the easy access of information. If we are truly in an information age, we had better make sure the information is usable.

LABOUR MARKET INFORMATION FOR HAMILTON-WENTWORTH

THE SKILL CHALLENGES OF THE ENVIRONMENT AND THE INFORMATION AGE

Table of Contents

Acknowledgements.....	i
Preface.....	iii
Executive Summary.....	vi
Table of Contents.....	xv

SURVEY RESULTS

Automotive Service	1
Health Care.....	14
Construction.....	26
Finance.....	38
Heating, Refrigeration & Air Conditioning.....	49
Electronics.....	60
Environmental.....	71

APPENDICES

Automotive Service

tranSKILLS interviewed 72 owners/managers of local automotive service companies representing 23 per cent of the total survey population of 317 interviews. The predominant number of these surveys, 65 of 72 or 90 per cent, were with small companies which employed 1-20 workers. The remaining seven interviews were with medium sized shops that employed between 21-99 workers or 10 per cent of the survey population within the automotive service sector. All surveys were done in person.

Job Title: Person on staff who perform environmental tasks.

Does your company have someone on staff in charge of environmental issues?

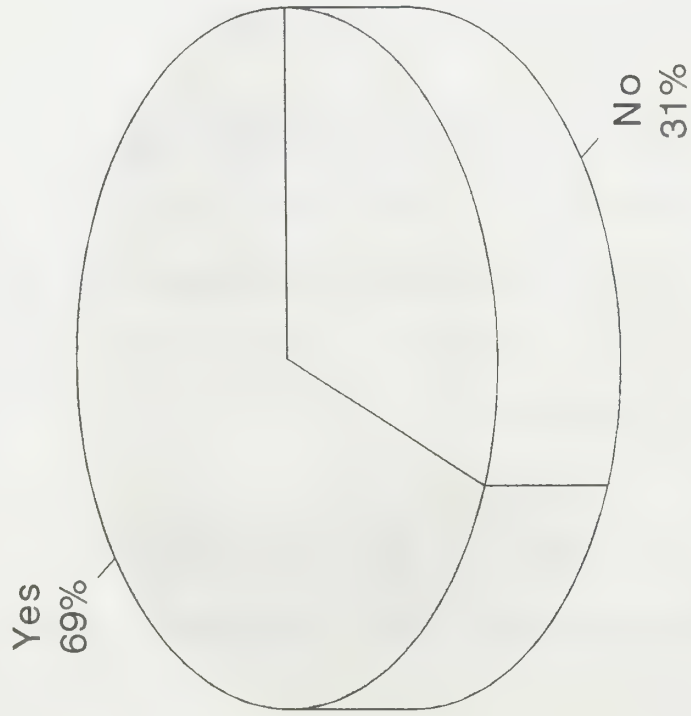
These questions were asked to determine if companies were assigning specific environmental duties to workers and whether someone was ultimately responsible for the environment within a workplace. We hoped to determine if there was one occupation to which the responsibility of environmentally related tasks fell.

In the automotive service sector the chore of performing environmental tasks, such as the proper disposal of waste oils, were performed by various members of staff ranging from the shop owner to helper. 86 per cent of the medium sized companies and 69 per cent of the small sized companies indicated they had a designated staff member responsible for environmental issues (Figure Auto 1).

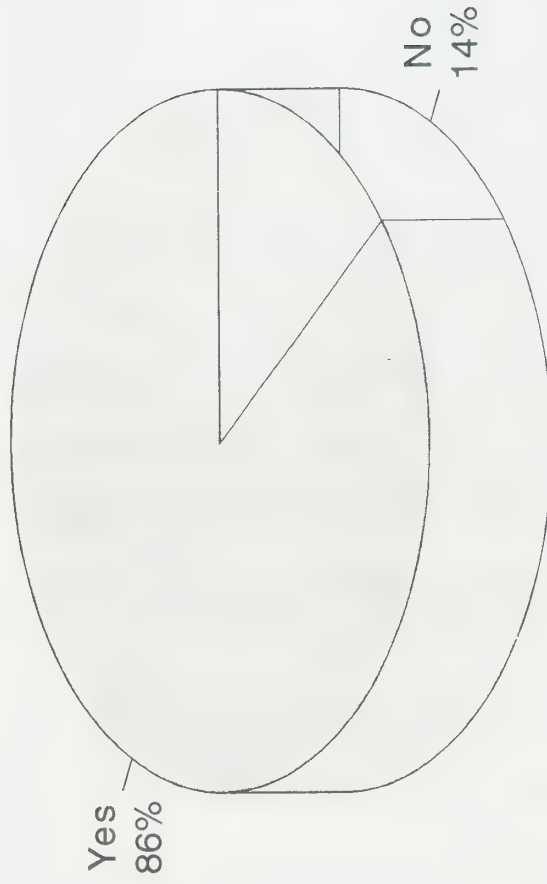
This appears to indicate that environmental responsibilities have been integrated into each job function, although the person performing the function is not necessarily the person

FIGURE AUTO 1

Does Your Company Have Someone On Staff Who Is In Charge Of Environmental Issues



Small Business



Medium Business

☐ Yes ☐ No

responsible for the shop environment. By not separating out environmental tasks into separate job functions it becomes easier for operators to adapt to environmental changes and comply with new regulations as they were able to spread the newly created workload among staff. The paradox becomes that if the environmental functions do not become a part of a specific job description, or are not given priority, they may become lost.

These results reflect an opportunity to begin incorporating environmentally sound practices into each component of training within the automotive sector. As each separate occupation within an automotive service shop appears responsible for its environmental practices, then it is important that a proper understanding of those practices, including both legislative compliance and environmental adaptation be included in all training offered.

How many people overall have been hired in the last year?

How many people do you need to hire today?

Have you had any difficulty in hiring?

Do you anticipate any new hires over the next 12 months due to growth?

Do you anticipate any new hires over the next 12 months due to staff replacement?

These questions, which appeared in different parts of the survey, have been placed together as they reflect the past and future growth of the sector surveyed. They also assist in anticipating any future needs and potential difficulties in meeting those needs.

Results indicate that both small and medium sized companies within the automotive service sector have grown within the past year and anticipate further growth. Each of the

seven medium sized companies hired people over the past year while 31 of the 65 small companies hired. In total, 44 people were hired full time by medium sized companies while 120 were hired full time by small shops. The current demand for personnel is low. Three of the seven medium sized shops indicated they need to hire a total of six people today while only four of the 65 small shops are in a position to hire one person each. Over the next year three of seven, or 43 per cent, of the medium sized shops indicate a need to hire new staff because of growth while 21 of 65, or 32 per cent, of the small shops indicate they will be in a position to hire (Figure Auto 2). Replacing staff will account for 71 per cent of the medium sized companies hiring over the next year but will only account for 11 per cent of the small shop hires (Figure Auto 3). Medium sized companies indicated they have had some difficulty in hiring (3 of 7), while only one of the 65 smaller shops interviewed experienced any hiring difficulty.

How many people on your staff require skills upgrading?

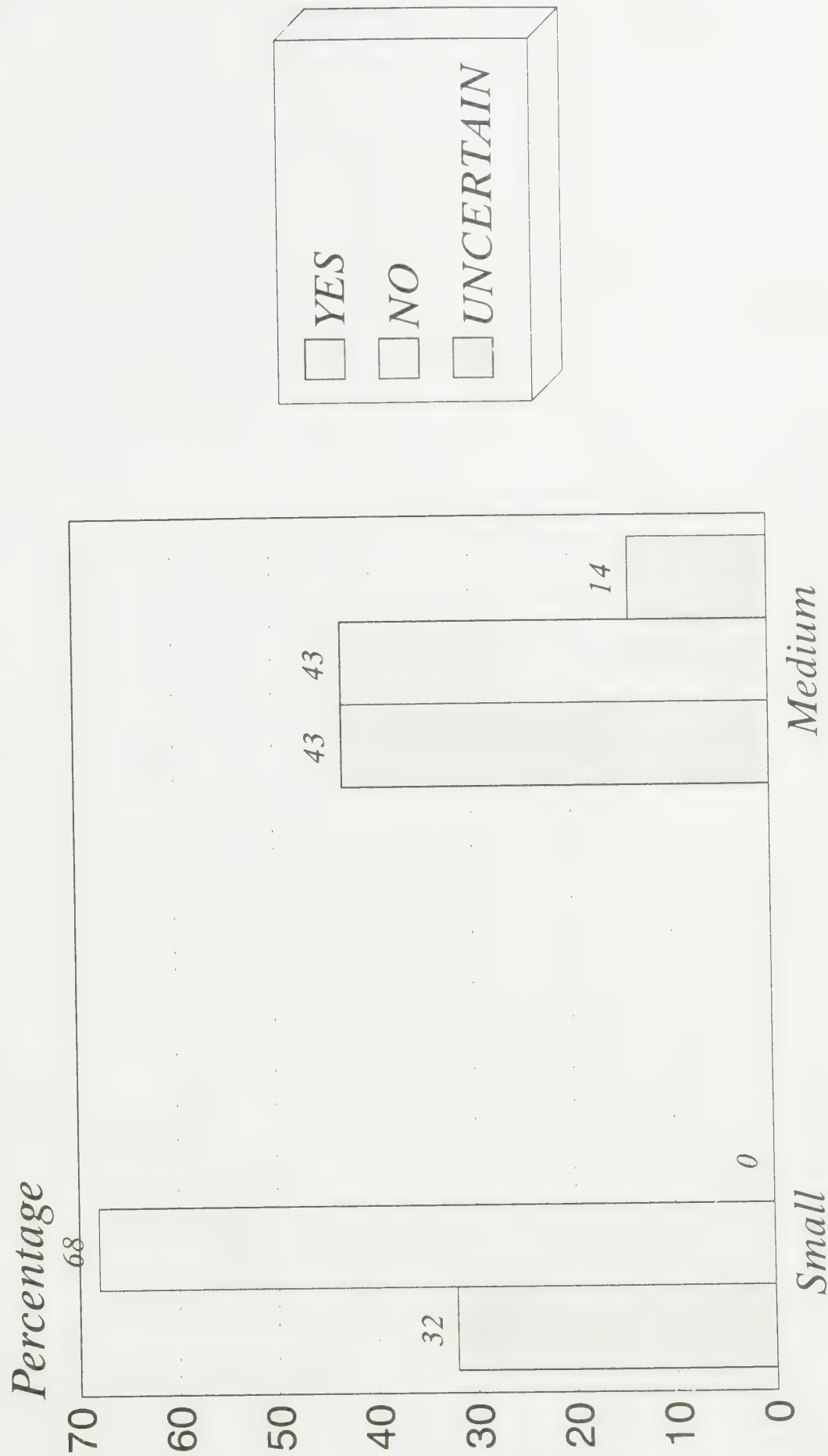
What are the skills your staff need in order to meet the current and future needs of your industry?

These questions were asked to determine the extent and type of training required?

In total 89 per cent of all companies indicated a need for all or some of their staff to have their skills upgraded. Within medium shops 29 per cent of survey respondents felt all of their staff required skills upgrading while 71 per cent felt some needed upgraded. Within small shops skills upgrading for all staff was indicated in 46 per cent of the surveyed companies, 32 per cent indicated some staff needed upgrading, 15 per cent said no one needed upgrading and seven per cent were uncertain (Figure Auto 4). However, despite

FIGURE AUTO 2

Do You Anticipate Any New Hires Over The Next 12 Months Due To Growth



Business

FIGURE AUTO 3

Do You Anticipate Any New Hires Over The Next 12 Months Due To Staff Replacement

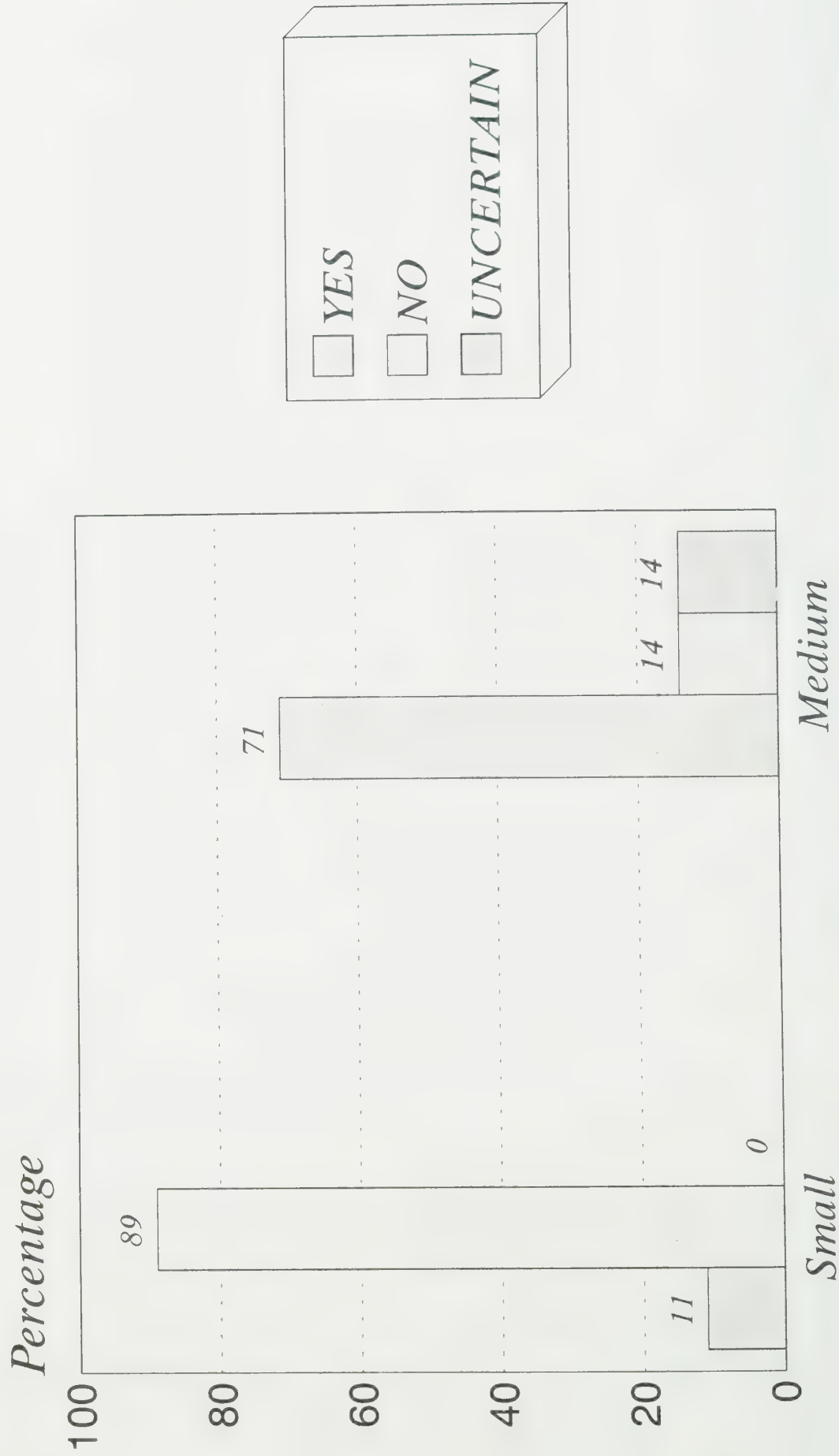
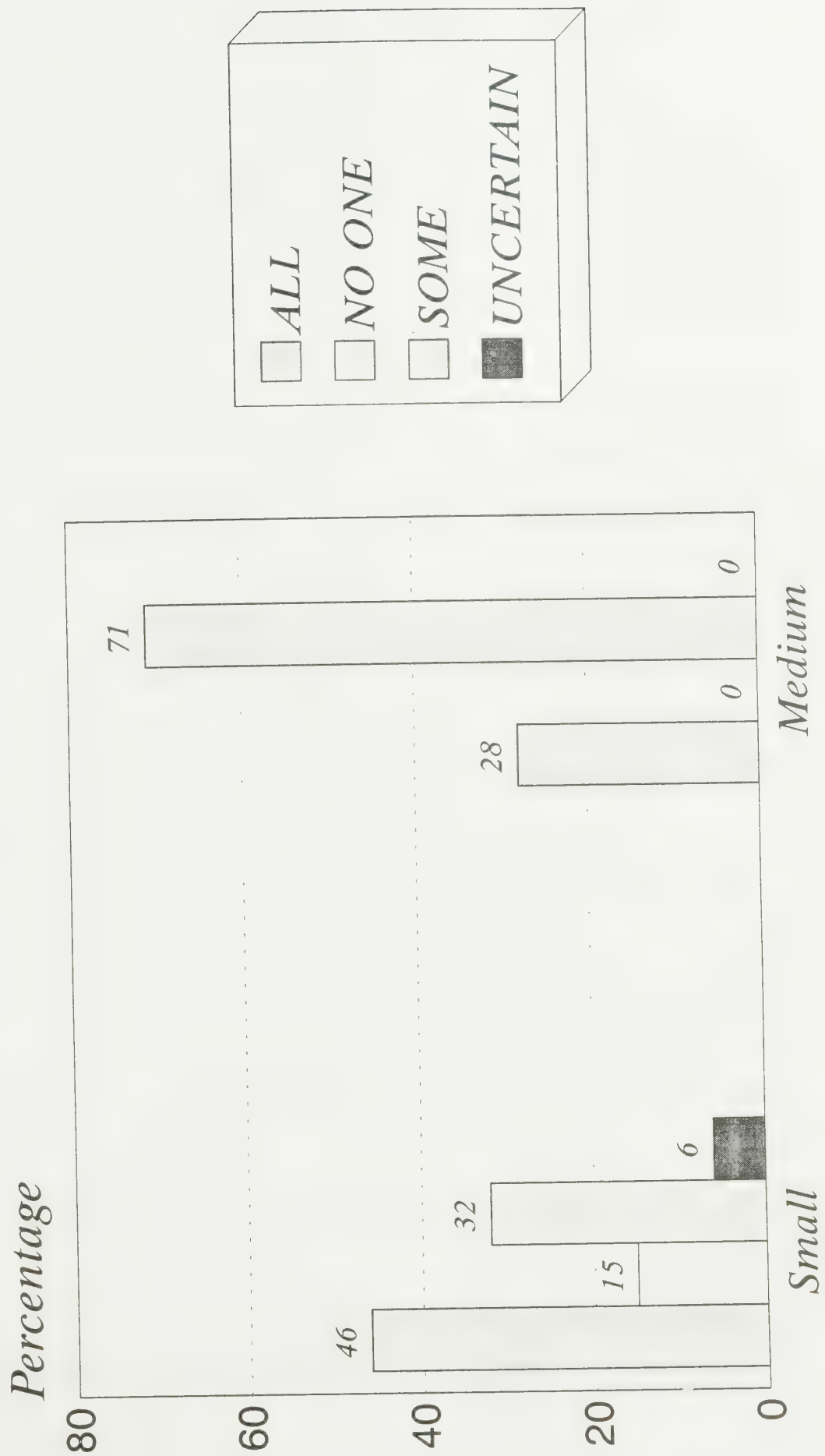


FIGURE AUTO 4

How Many People Of Your Staff Require Skills Upgrading



Business

the awareness that upgrading was required, the skills that were needed were not as easily identified. Fourteen companies indicated computer training was needed, 12 wanted upgrading on product knowledge and eight wanted training on ABS Braking Systems. The remainder of the training was various and diverse.

It is encouraging that many companies indicate a high need for skills upgrading, but that need does not always translate into the ability to be able to identify exactly what is needed. It is uncertain as to whether operators have the ability to identify the specific skills they need within their operation.

In order to assist employers in closing the gap between knowing their operation needs new skills and what those skills are we need to develop a new approach to needs identification. The existing methodology of simply asking employers what they lack does not go far enough. A new process of compiling an inventory of the skills of existing staff, identifying the strengths and gaps, then building on those strengths and filling the gaps may be required in order to assist employers in not only skill upgrading but in the selection of new personnel.

Do you plan on introducing new equipment next year?

What kinds of equipment?

What impact will this equipment have on the skill requirements of the occupations affected?

Do you plan on introducing new processing methods?

Can you describe the impact these new processing methods will have on the skill

requirements of those affected?

To what extent do you expect technology to impact on your business in the next 2 to 3 years?

These questions were asked to determine the extent of change in each sector and the awareness of the effects that change will have.

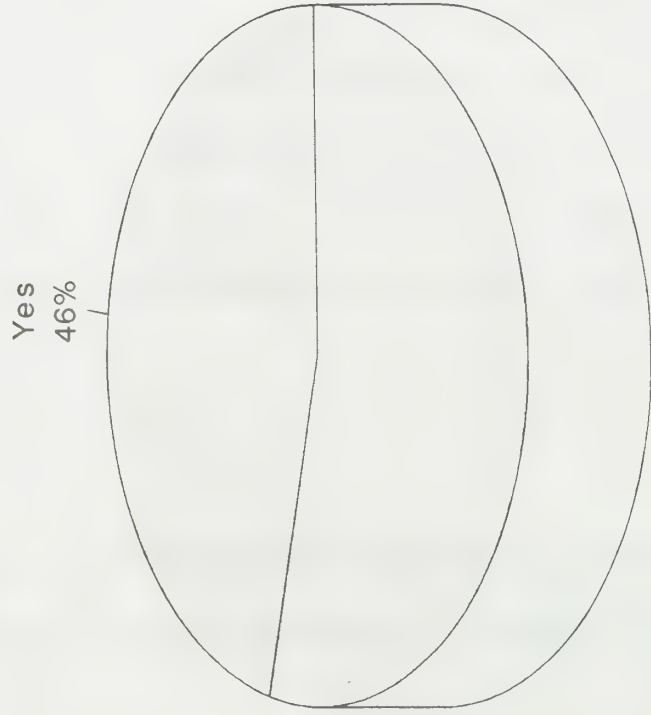
While 100 per cent of the medium sized companies and 46 per cent of the small companies plan on introducing new equipment (Figure Auto 5), only 14 per cent of the medium shops and 18 per cent of the small shops indicate they will be introducing new processing methods (Figure Auto 6). Also, 86 per cent of medium sized companies anticipate technology to have a moderate to very substantial impact on their businesses in the next 2 to 3 years while 72 per cent of small companies anticipate the same (Figure Auto 7). These results pose a series of questions. If new equipment is introduced does it not require the introduction of new processes? If new technology is expected to have an impact on business operations, should there not be a corresponding impact on process? Who is providing the training on new equipment and is it being incorporated into the operation of the shop as a whole? Is the training specific to an equipment manufacturer or is there room for generic and transferable training? What role could organizations such as community colleges play in linking the introduction of new equipment to new processes? Where does customer service and quality fit in when new equipment is introduced?

Is your business currently regulated by an environmental government department?

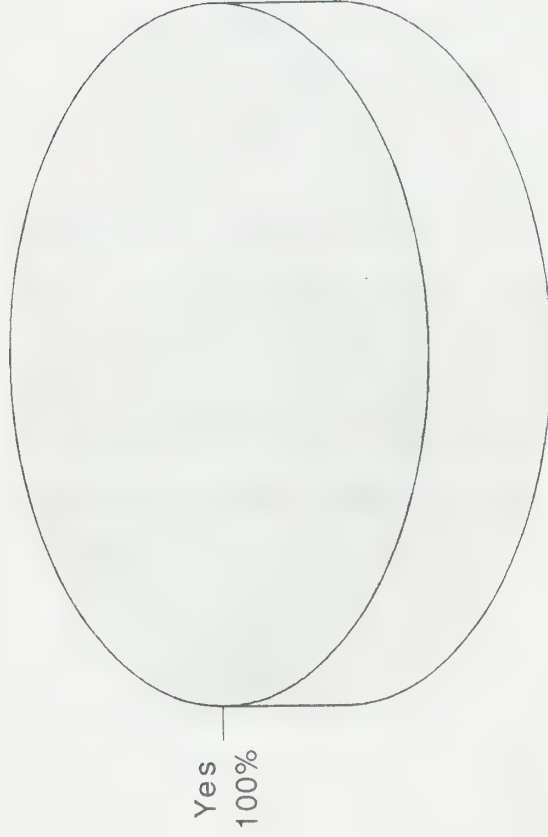
Do any of your staff require environmental certification to perform their jobs at

FIGURE AUTO 5

Do You Plan On Introducing New Equipment Next Year



Small Business

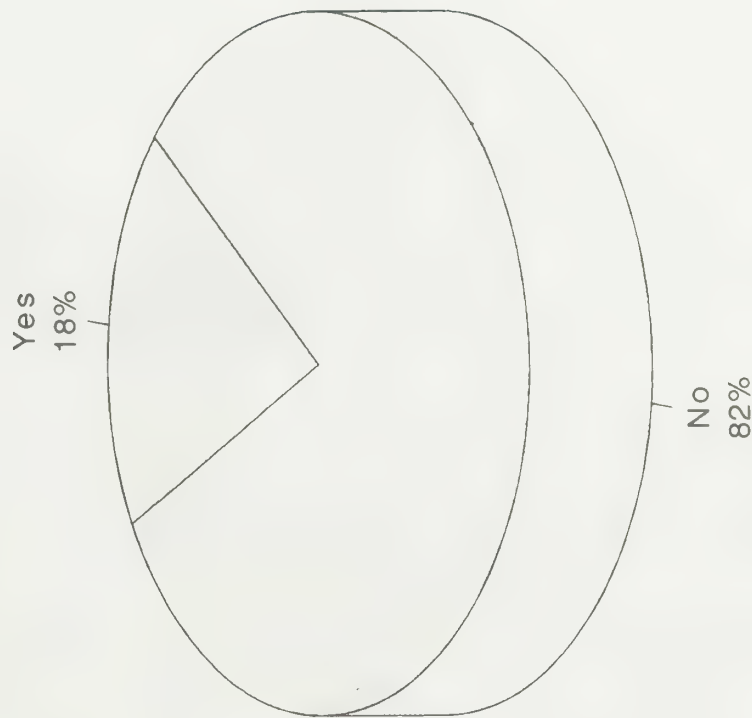


Medium Business

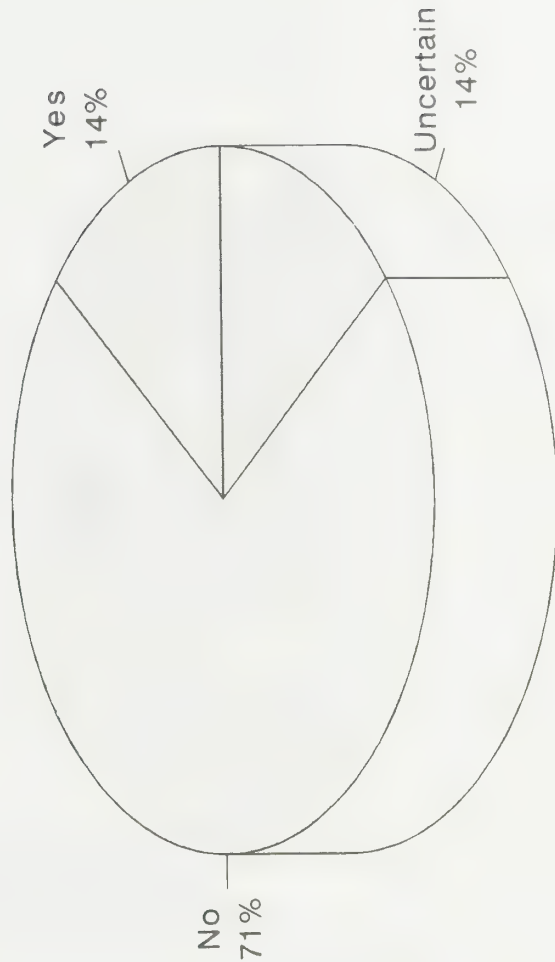
<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

FIGURE AUTO 6

Do You Plan On Introducing New Processing Methods



Small Business

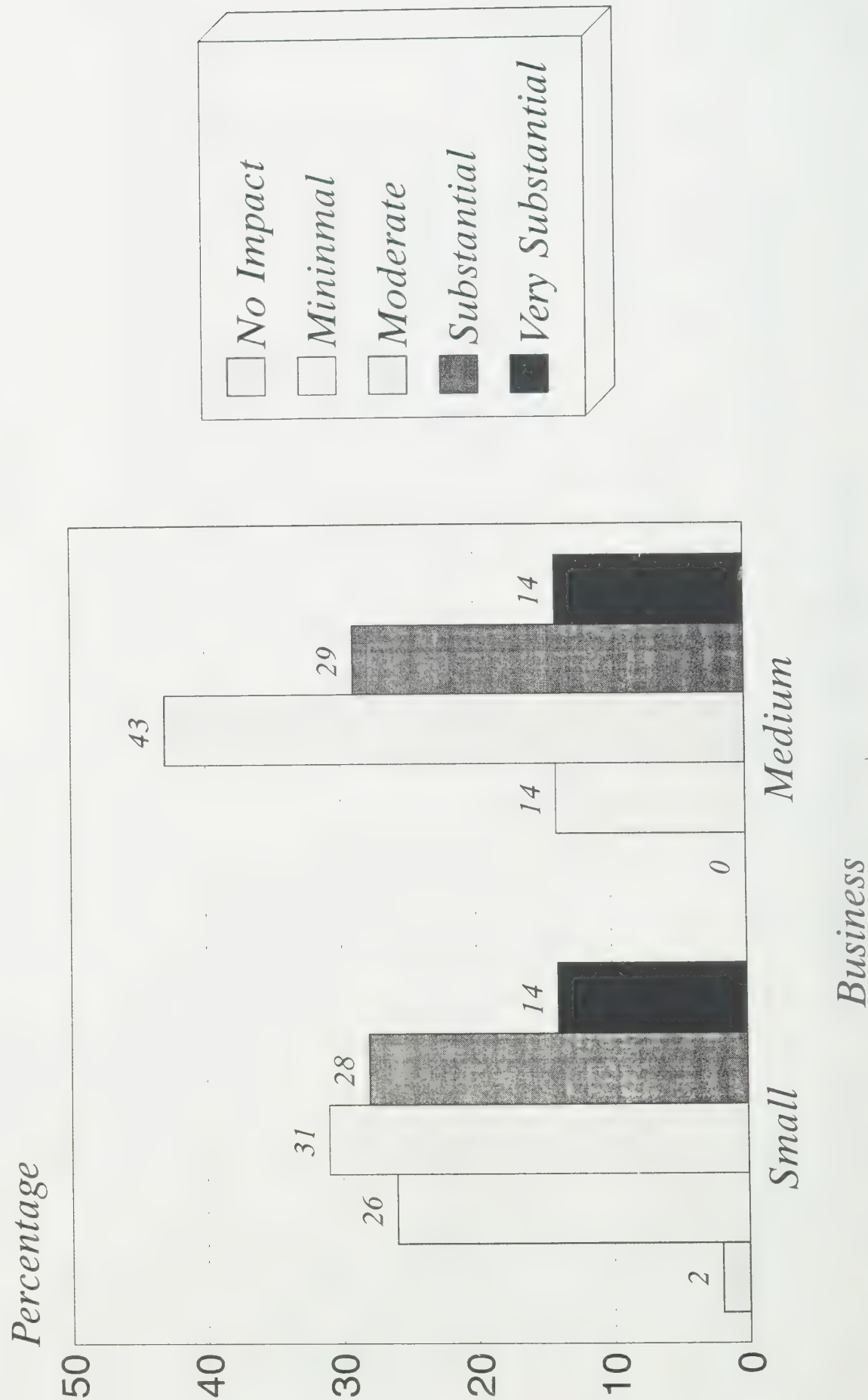


Medium Business

☐ Yes ☐ No

FIGURE AUTO 7

Expected Technology Impact On Businesses Over The Next 2 to 3 Years



present?

Are any of your staff able to identify critical functions related to the environment?

Do you currently train your staff on environmental issues?

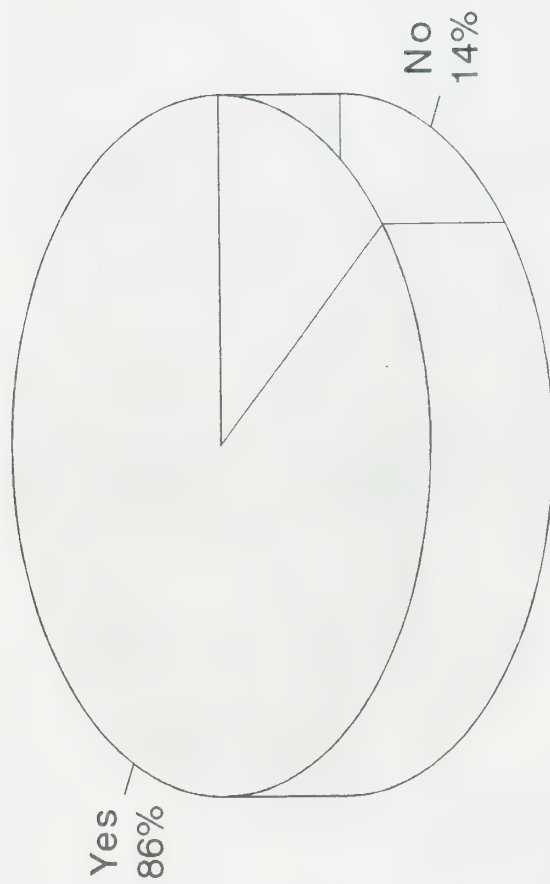
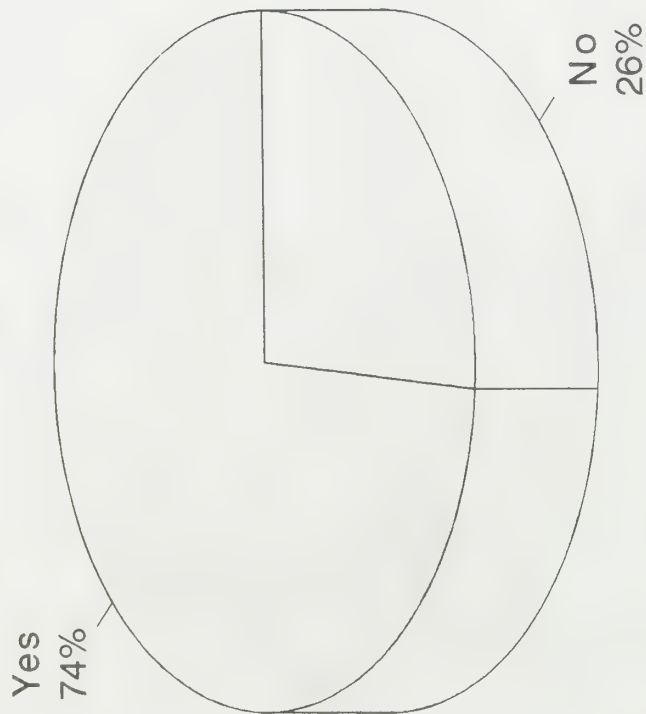
Have any of your employees attended seminars or courses related to the environment?

These questions were asked to determine the degree of business awareness and response regarding the environment.

While all automotive shops are regulated by an environmental department, only 75 per cent of the shops interviewed were aware this was the case (Figure Auto 8). All but one of those was a small operation. However, 92 per cent recognized the requirement of having a staff person who had attained some form of environmental certification in order to perform their job and 96 per cent carried a staff person who was able to identify critical functions related to the environment (Figure Auto 10). In the automotive service sector, properly disposing of liquid waste was one example of a critical function relating to the environment. In contrast, 74 per cent of companies indicated they trained their staff on environmental issues (Figure Auto 11) while only 53 per cent indicated that an employee had attended a course or seminar related to the environment (Figure Auto 12). Again, this poses a series of questions. Are companies viewing those areas as critical to the environment only the areas that are legislated? Are they relating critical functions to anything other than laws? If they are not, is it because they are uncertain how to react or anticipate without legislation? Is there a more proactive way to offer business the incentive to be environmentally sound without the punitive measures of non-compliance? Can they be shown how to build into their operations a way to increase business and be

FIGURE AUTO 8

Is Your Business Currently Regulated By An Environmental Government Department



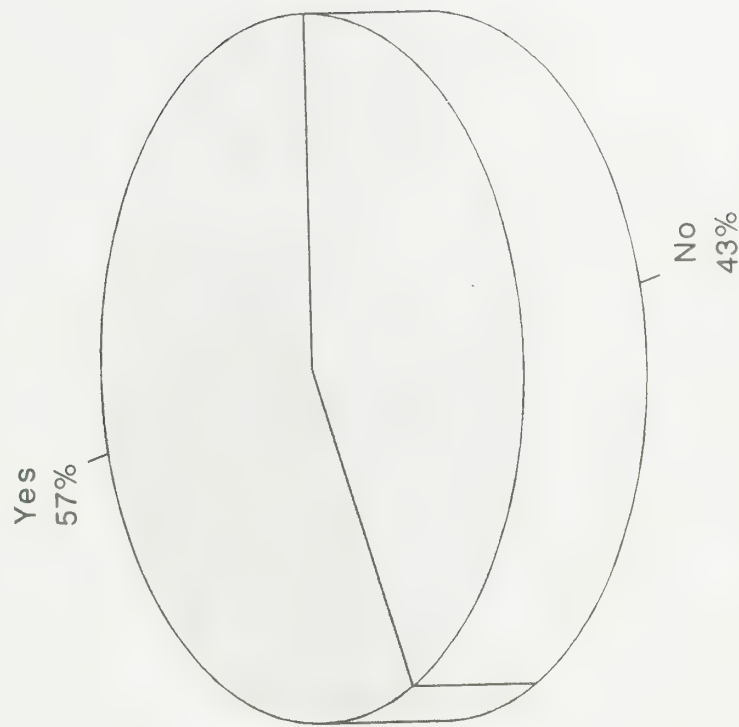
Small Business

Medium Business

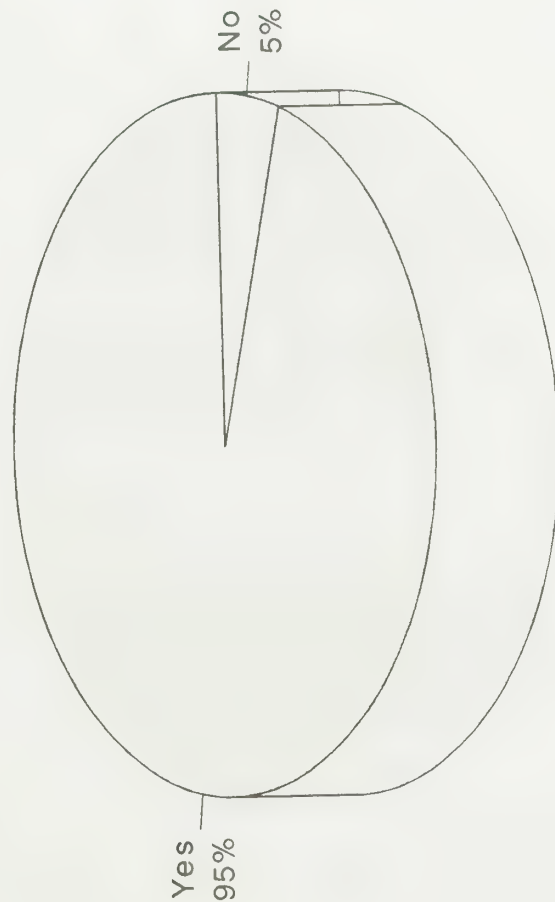
☐ Yes ☐ No

FIGURE AUTO 9

Do Any Of Your Staff Require Environmental Certification To Perform Their Job



Medium Business

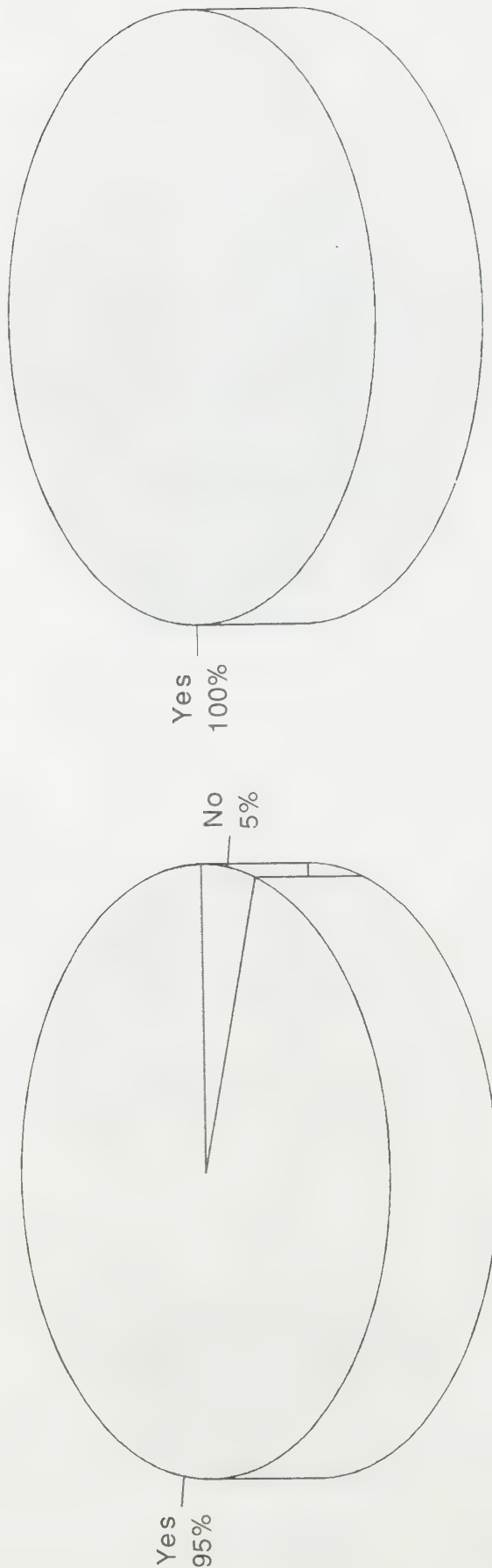


Small Business

<input type="checkbox"/> Yes <input type="checkbox"/> No
--

FIGURE AUTO 10

Are Any Of Staff Able To Identify Critical Functions Related To The Environment



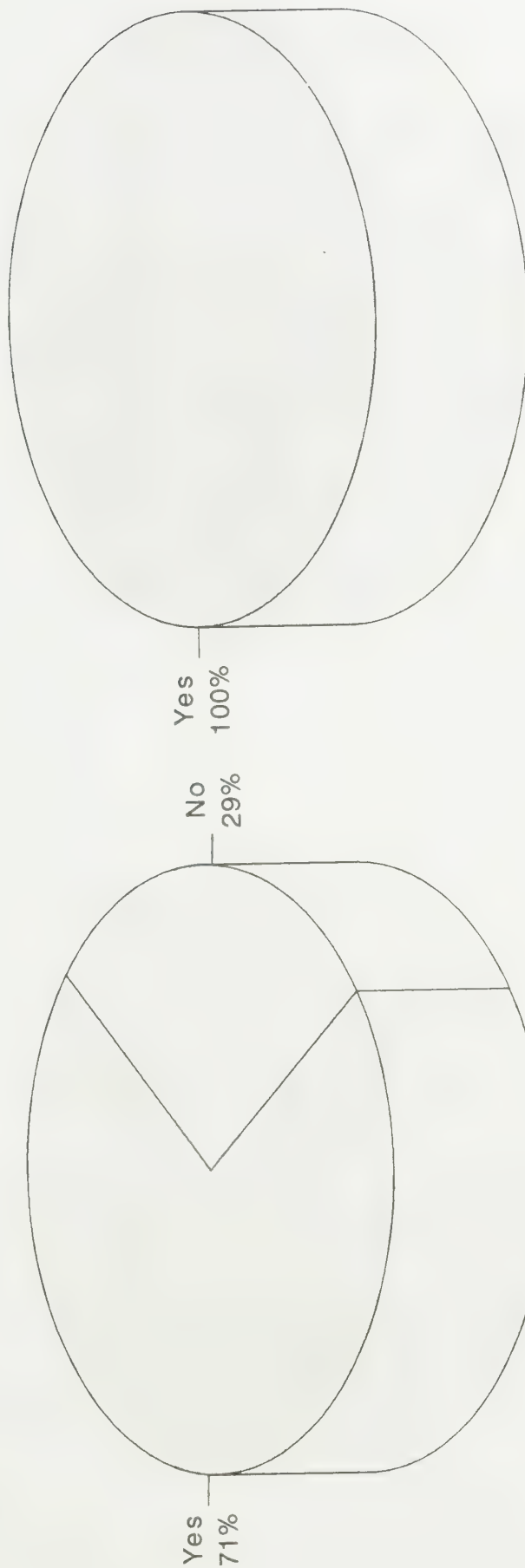
Medium Business

Small Business

☐ Yes ☐ No

FIGURE AUTO 11

Do You Currently Train Your Staff On Environmental Issues

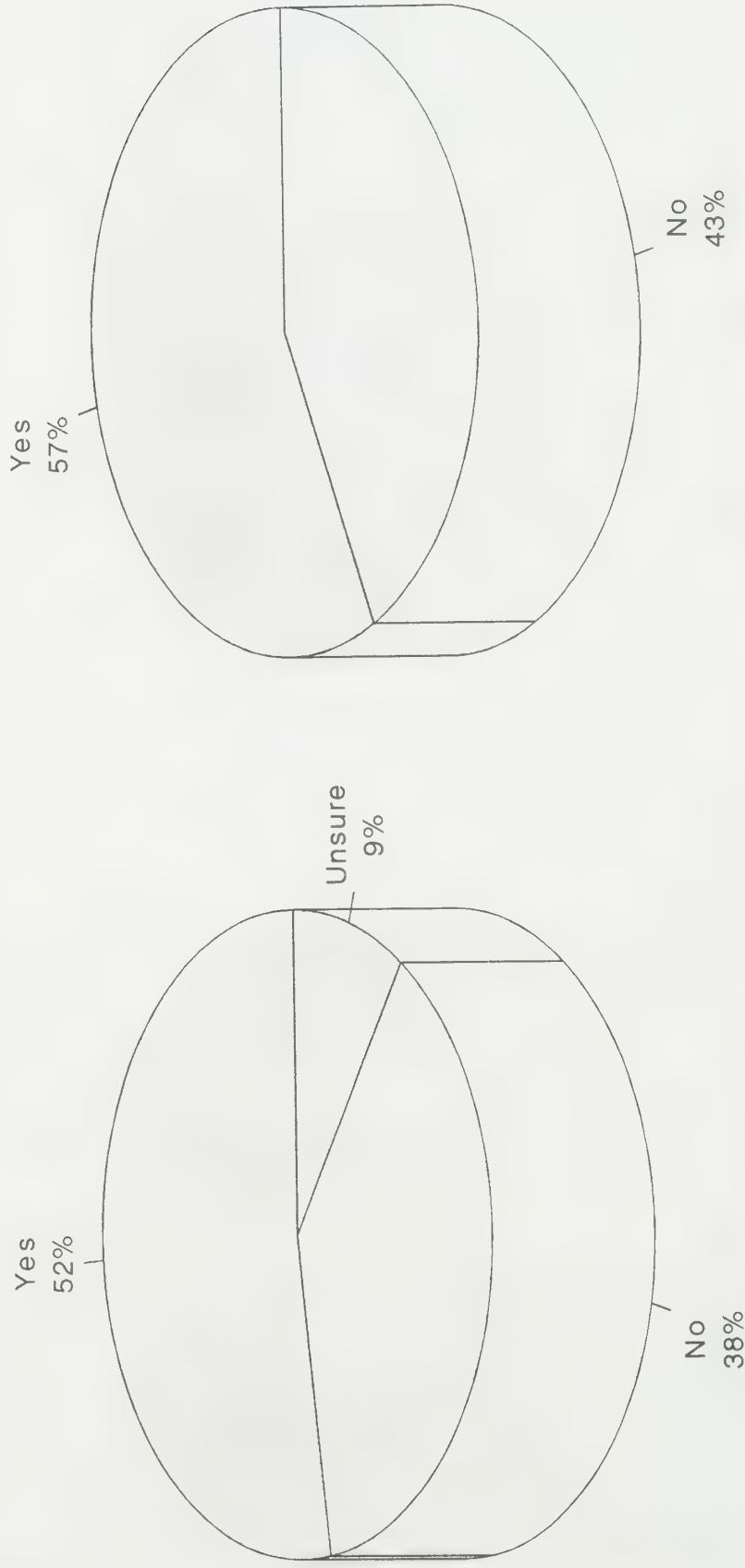


Small Business Medium Business

☐ Yes ☐ No

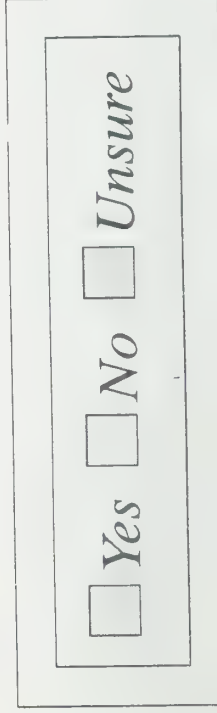
FIGURE AUTO 12

Employees Who Have Attended Seminars Or Courses Related To The Environment



Medium Business

Small Business



environmentally responsible?

Which of the following areas are of concern in the operation of your company?

This question provided the company with eight choices and was asked to determine specific areas of environmental concern.

Recycling (86%), liquid waste (78%), solid waste (67%), legislative compliance (63%) and air quality control (56%) were of the greatest concern to the automotive service sector and can be traced directly back to their operation in tangible day to day activities. Those areas not seen as having as great of a direct impact on daily business, toxic waste (39%), depletion of natural resources (35%) and water quality (11%) were seen as areas of lesser concern (Figures Auto 13 & 14).

Does your business participate now or have future plans for:

Reduction Re Use Recycling Material Substitution Initiatives

This question was asked to determine the involvement of business in the most common of environmental practices.

A full 89 per cent of companies surveyed indicated they are already involved in or will be involved in a recycling program. However, only 57 per cent are doing the same with reduction and re-use and 53 per cent with material substitution (Figure Auto 15). This result is surprising considering the extensive promotion given the three R's. It also indicates a need for greater awareness among business as material substitution, reduction and re-use are considered key components to sustainable development and long term

FIGURE AUTO 13

The Following Areas Of The Environment Are of Concern In The Operation Of A Business

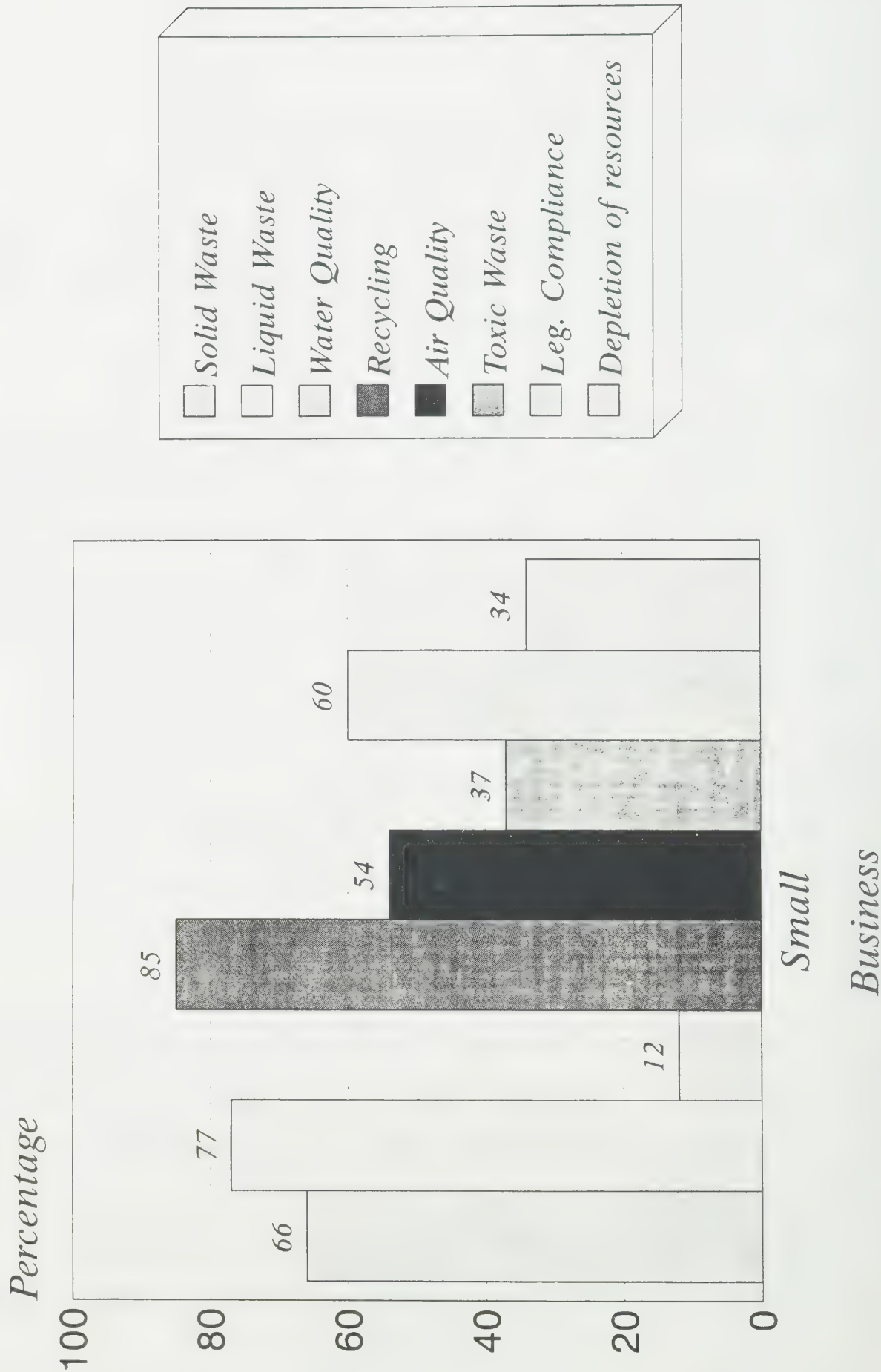


FIGURE AUTO 14

The Following Areas Of The Environment Are Of Concern In The Operation Of Your Business

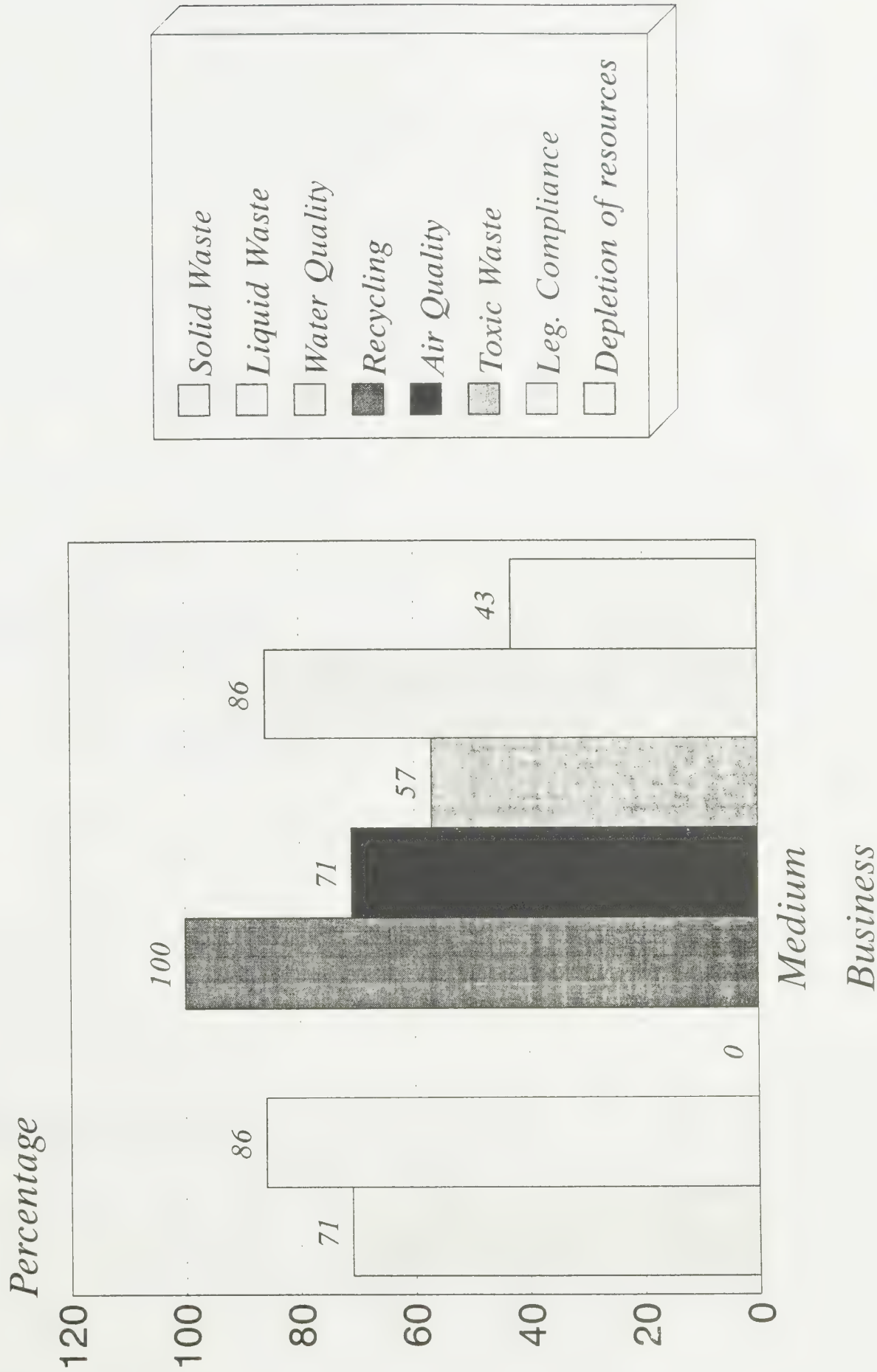
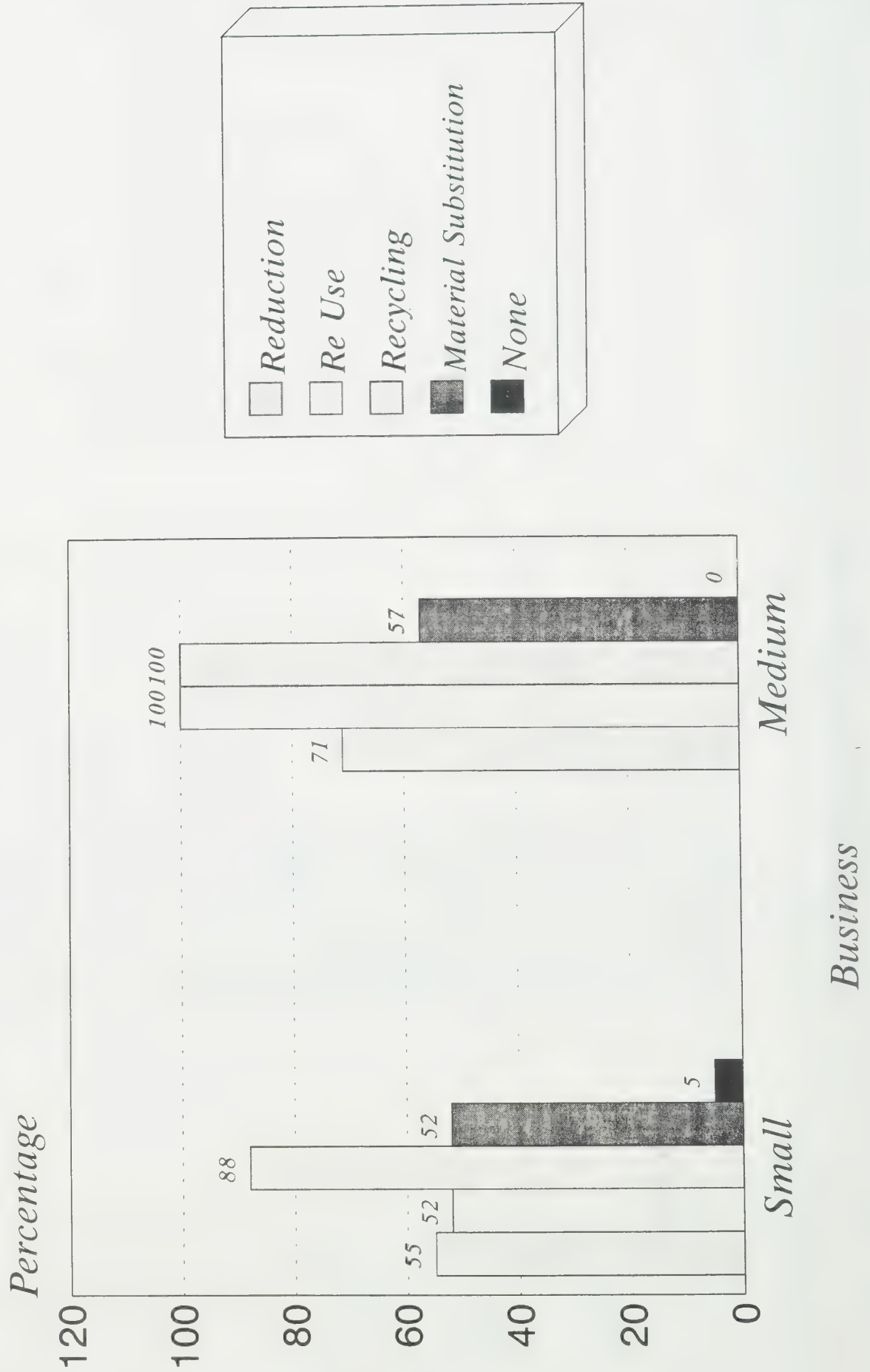


FIGURE AUTO 15

Current Or Future Business Participation In Reduction, Re-Use, Recycling & Material Substitution



profitability. It also indicates a need to show business the positive side of reduction, re-use and material substitution, in particular, when it relates to the overall viability of the company.

Does your company require suppliers to comply with environmental practices?

This question was asked to provide further indications as to whether environmental concerns are becoming a regular part of business practice.

In total, 68 per cent of companies surveyed indicated they do require their suppliers to comply with environmental practices. Twenty-five per cent do not and seven per cent were uncertain (Figure Auto 16). A growing concern among consumers, who may now be making some of their purchasing decisions based on the environmental sensitivities of business, appears to be leading companies to become more demanding of their suppliers and more aware of the impact they have on the environment.

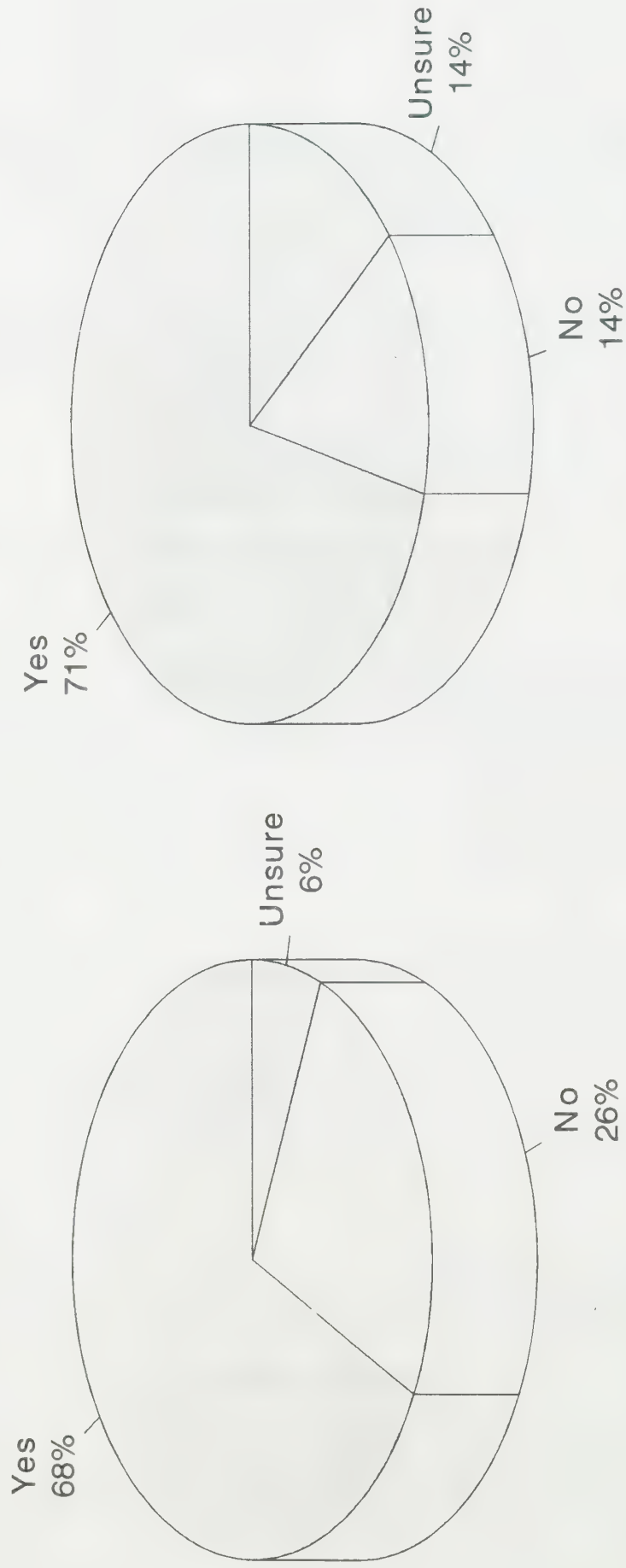
Which of the following aspects of environmental legislation are most difficult for your business?

This question was asked to identify areas of compliance and compliance related issues with which business was experiencing the most trouble.

Increased fees (75%), taxes (68%), cost of compliance (50%), keeping abreast of new laws (47%) and increased paperwork (35%) all proved most troublesome for business. In each case, these areas either impact time, money or both and are viewed as having a negative effect on business profitability. Inspections (7%) were not seen as a problem (Figures Auto 17 & 18). Only six per cent of companies indicated they had no

FIGURE AUTO 16

Does Your Company Require Suppliers To Comply With Environmental Practices



Small Business

Medium Business

☐ Yes ☐ No ☐ Unsure

FIGURE AUTO 17

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business

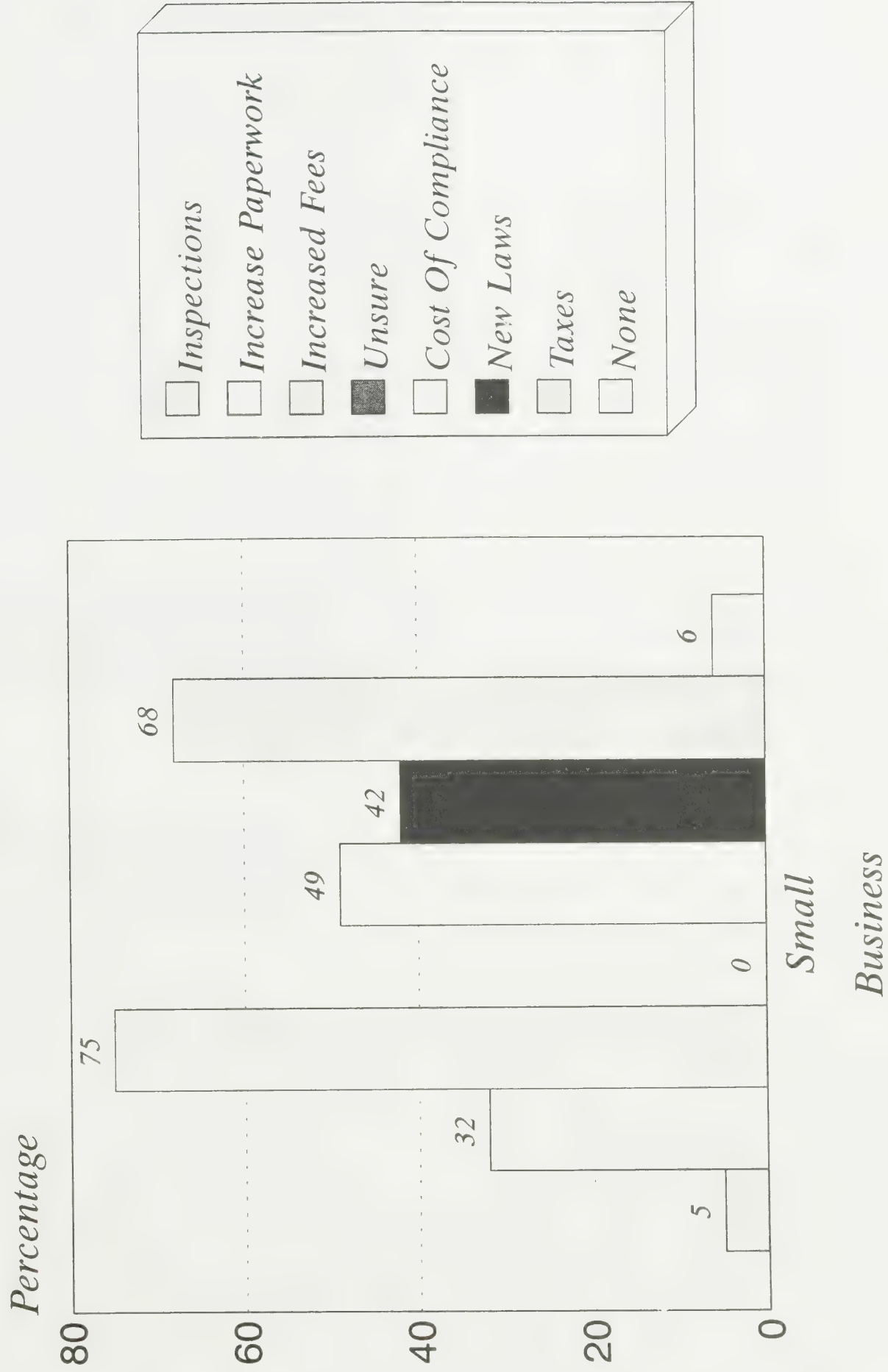
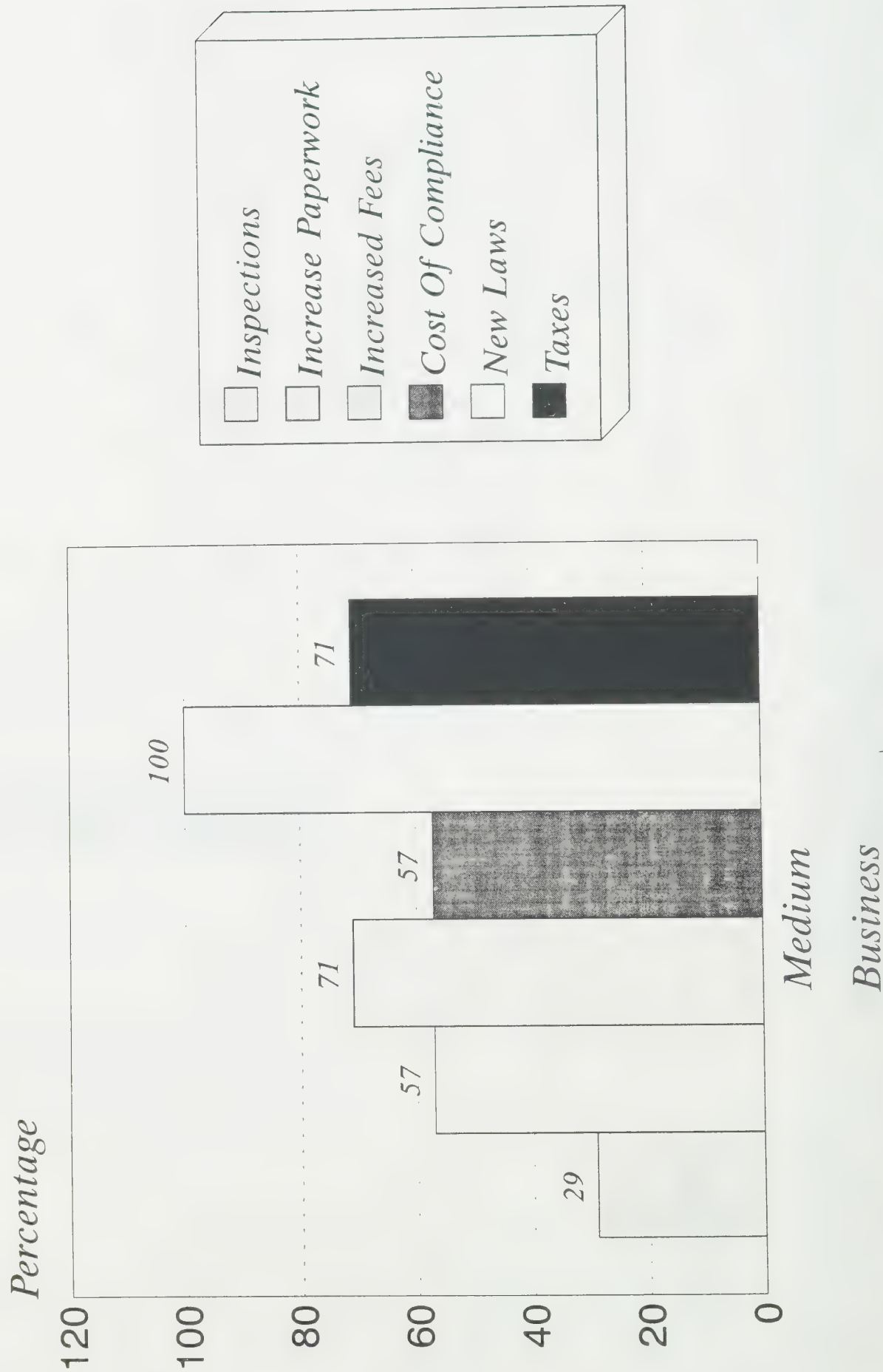


FIGURE AUTO 18

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business



compliance difficulties.

It appears that businesses within the automotive service sector predominately view environmental compliance as a costly and time consuming process. In fact, as a detriment to their doing business. What is needed is a more proactive, as opposed to punitive, approach to environmental adaptation. Small business, in the tactile skill areas in particular, begin operations to be able to apply their learned skills. New means need to be developed to assist them in dealing with an increasing amount of information that will aid them in complying. Governments must look at what they are doing to help with the increased paperwork they are demanding. They must also help business keep abreast of new legislation on business terms and in their own language. This is not to say that the environmental agenda should be catered to business, but in areas where there is going to be a direct impact on business, governments should assist business in acquiring the skills necessary to conform.

What type of environmental training do you feel would benefit your company most?

This question was asked to determine the immediate and specific skill requirements of business in areas relating to the environment. Twelve choices were given.

New technology or technological innovations in the business operation were indicated as the most beneficial training that could take place (64%), training in emissions and disposal alternatives (49%), hazardous waste management (45%), material substitution (42%), financial planning (36%), air quality control (35%), testing procedures (32%), legislative compliance (26%) and gas recovery (24%) were also cited as being

immediately needed. Sewage treatment (8%) and management training (1%) were not viewed as having as great a need (Figures Auto 19 & 20).

Results indicate an extremely high need for many types of environmentally related training within the automotive service community. This can be seen as reflective of a number of factors including, but not limited to, the necessity of compliance, protection of the in-house and general environment, enhancement of various operations, an increase in workplace safety and the potential for a "green" marketing tool. Regrettably, as will be indicated later, many of the systems that compelled business to indicate this need for training are unable to respond.

What is the largest barrier to environmental training of your staff?

This question was asked to determine what was preventing business from going forward with training that it needs. Eight options were provided.

Barriers indicated can be broken down into two specific areas. Impact on the bottom line and lack of knowledge and/or training programs. Sixty per cent of the companies surveyed indicated that they lack the financial resources to enter into training, while 49 per cent were unable to give their personnel the time off. A lack of information about programs (58%), the unavailability of training (42%), a difficulty in assessing needs (42%) and a lack of technical knowledge (40%) were also seen as barriers. Employee resistance to training (28%) and a lack of management support (10%) were not seen to be as imposing (Figures Auto 21 & 22).

FIGURE AUTO 19

Environmental Training That Would Benefit A Company The Most

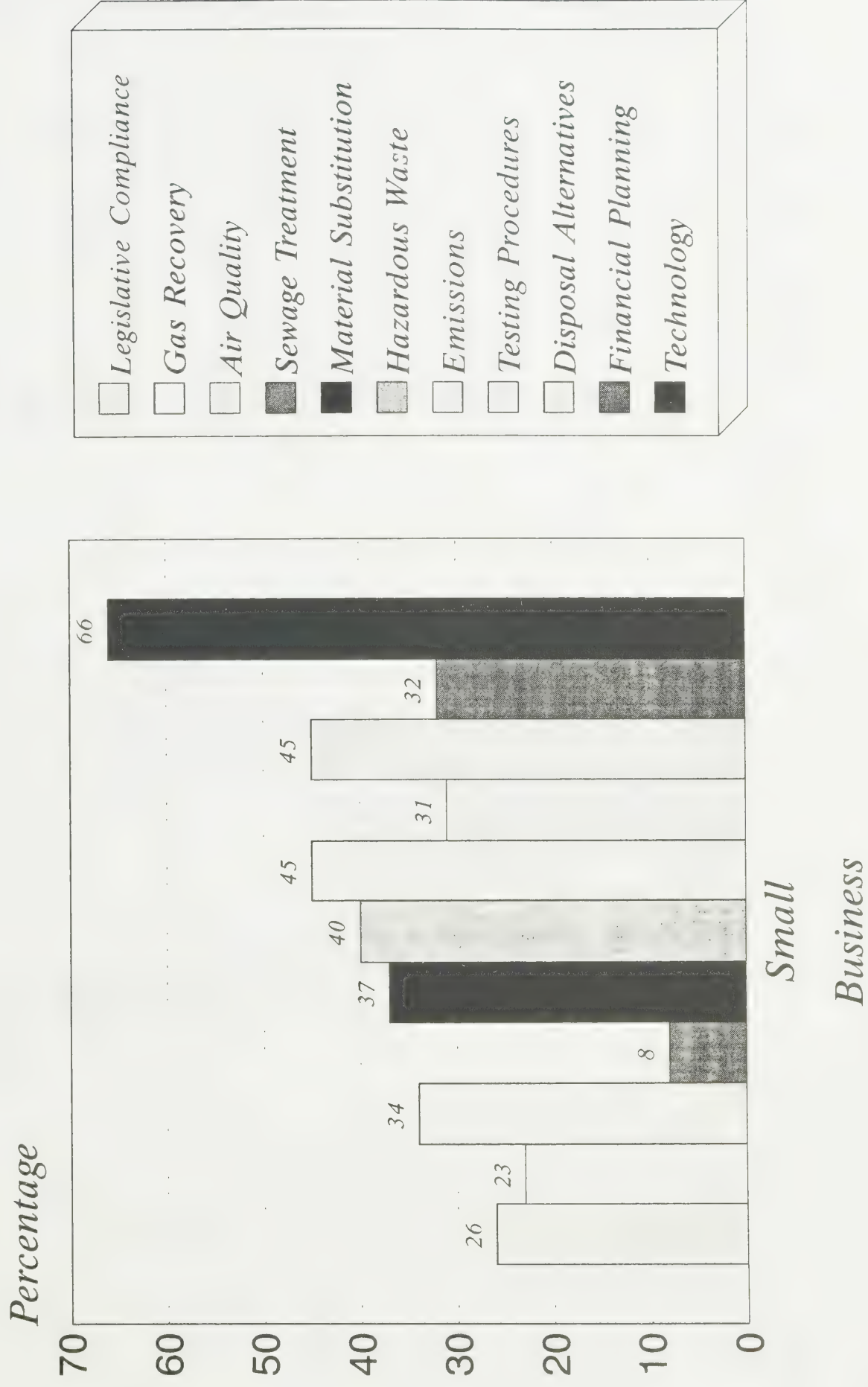


FIGURE AUTO 20
Environmental Training That Would Benefit A Company The Most

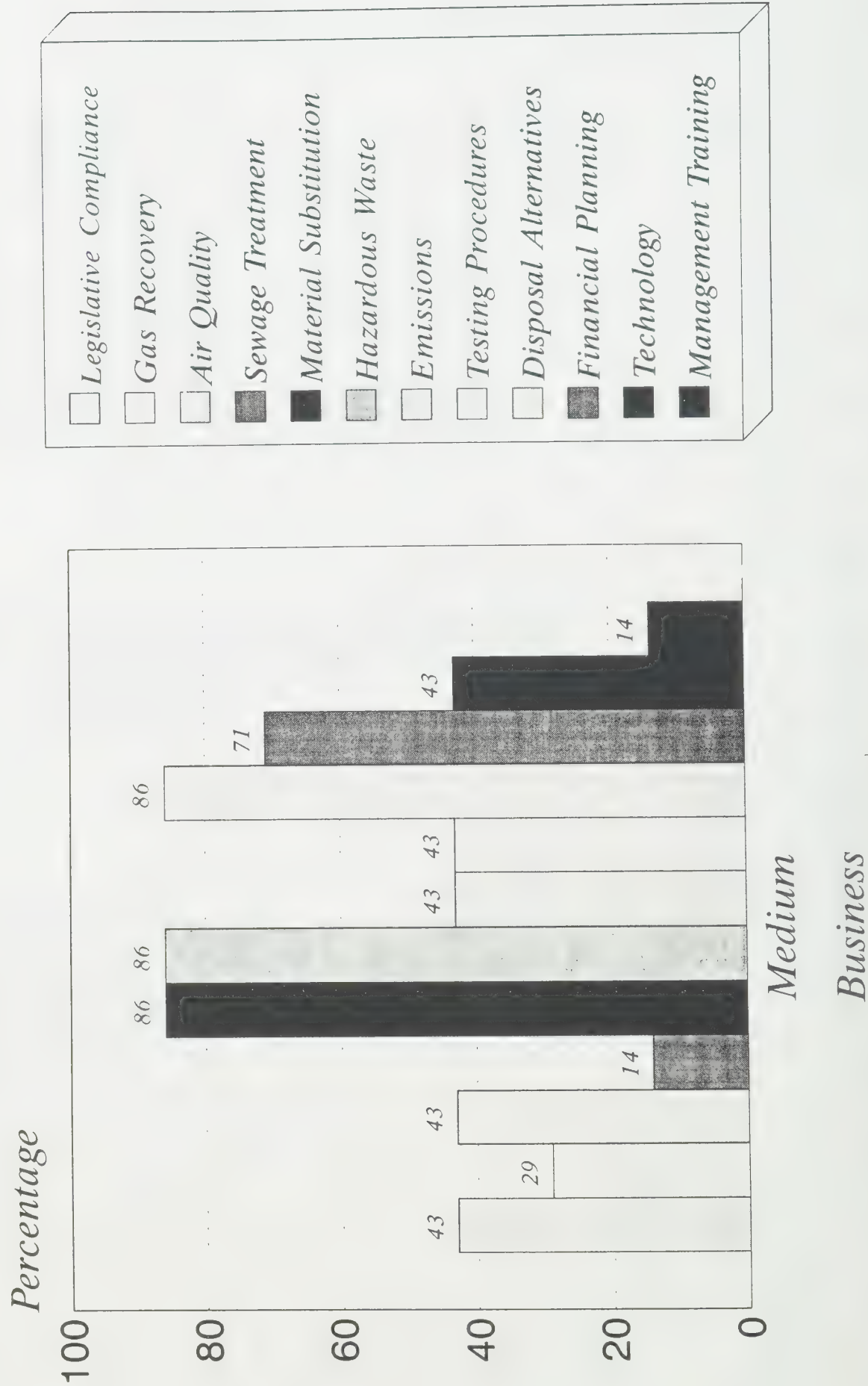


FIGURE AUTO 21

Largest Barrier To Environmental Training Of The Staff

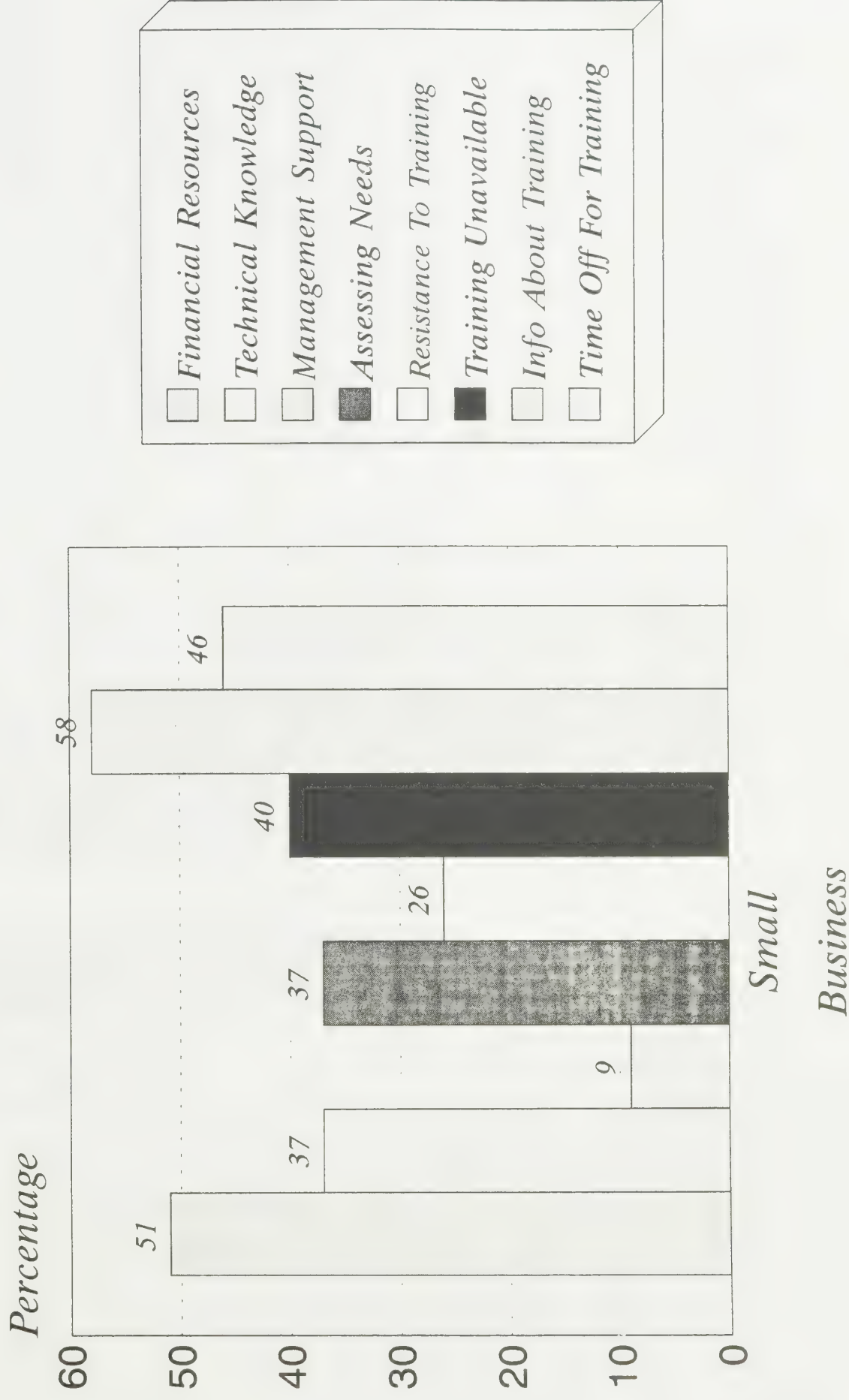
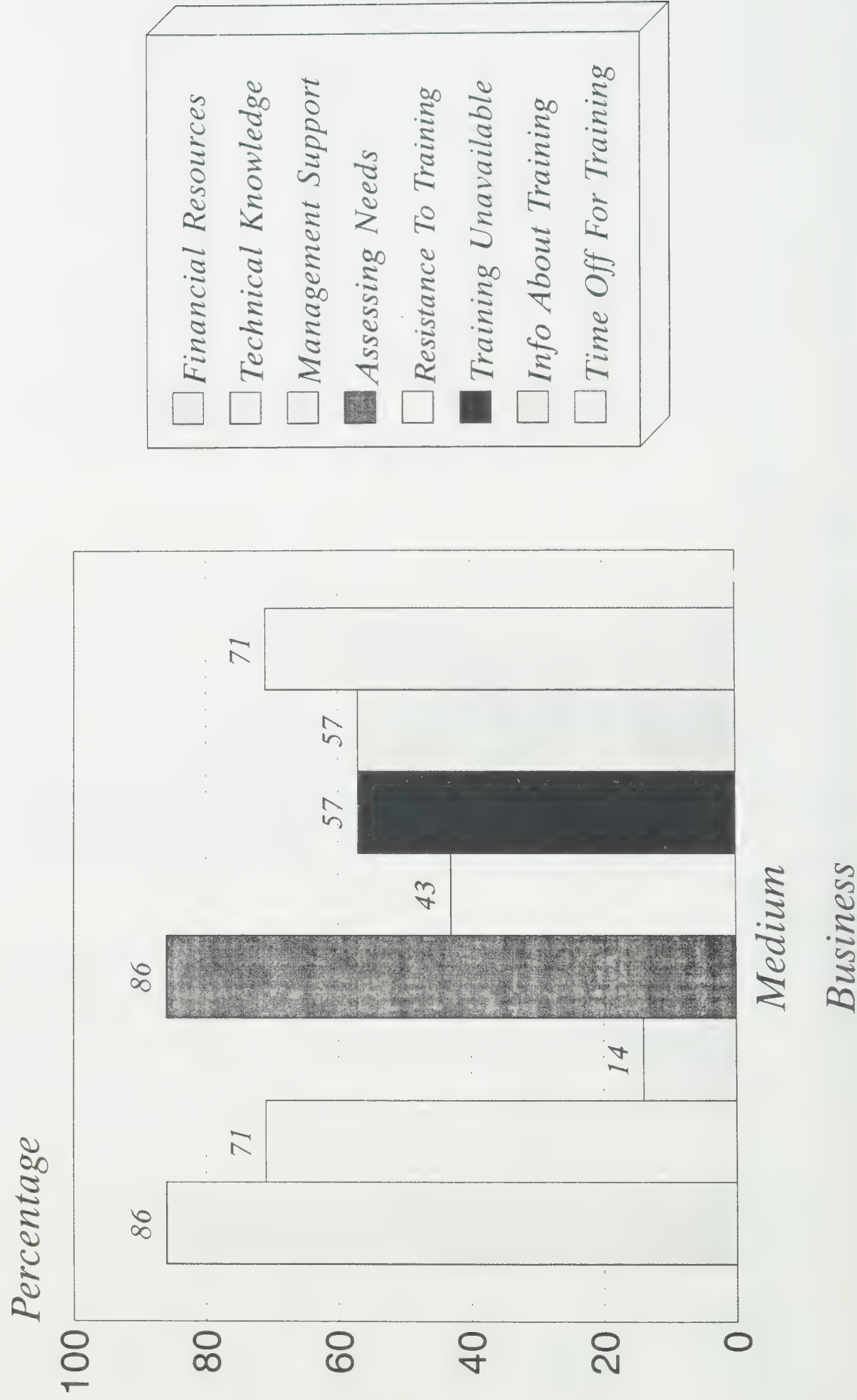


FIGURE AUTO 22

Largest Barrier To Environmental Training Of The Staff



While business is feeling the need to adapt and comply environmentally it is also feeling caught by an inability to dedicate resources, determine what training is needed, find the training, or, worse, find that the training they need is unavailable. As the enactors of new environmental laws or requirements it is incumbent upon government to ensure that the ability to not only comply, but to anticipate change be made available to business in a cost effective fashion. It should also be made available in a format that hi-lites the advantages of environmental adaptation and focuses less upon punitive measures.

When involved in training which type of format do you prefer?

This question was asked to determine what training times most suited business needs. Six options were presented.

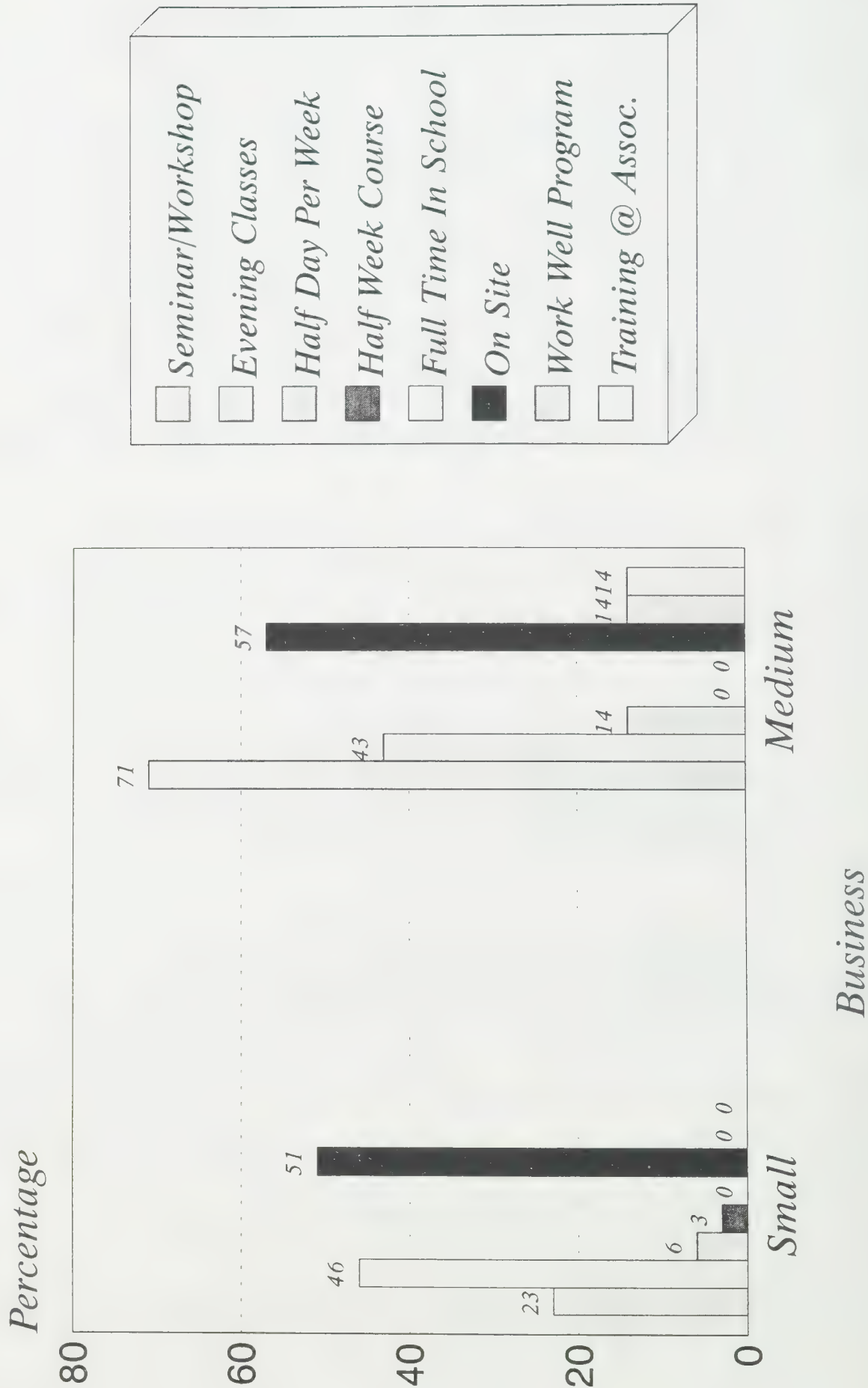
On site training (51%), evenings (46%) and seminars and workshops (28%) substantially outdistanced training that occurred one-half day per week (7%), an intensive half-week course (3%) or full time in school (0) (Figure Auto 23).

Training formats which are short and have the least impact on the daily operation of business remain the preferred choice and are consistent with indicated barriers to training such as the inability to give personnel time off and lack of financial resources. It is important to recognize that in the operation of a small business in particular, where the absence of personnel is more profoundly felt, it is essential that training formats and systems be developed and adapted to meet their reality.

Do you foresee a need to hire graduates from an environmentally related course?

FIGURE AUTO 23

When Involved In Training Which Type Of Format Do You Prefer



This question was asked to determine which businesses were breaking out environmental responsibilities as distinct occupations.

None of the employers surveyed in the automotive service sector saw a need to hire an environmental specialist (Figure Auto 24). Within the industry it is not viewed as a specific skill, but is incorporated into a series of different occupations. This increases the importance of having environmental adaptation and practices incorporated into the training of mechanical skills used within the industry.

Did you find the information we provided helpful?

Did it influence any of your answers after it was given to you?

These questions were asked after tranSKILLS conducted and presented research into the environmental impact on the industry as determined by environmental experts. We were attempting to determine whether new ways of collecting labour market information would enhance business without adversely affecting survey results.

Sixty per cent of respondents indicated the information our research provided for them was helpful, five per cent said it was somewhat helpful and 35 per cent said it was of no help (Figure Auto 25). One per cent indicated the information influenced their answers while 99 per cent indicated it did not (Figure Auto 26).

While it is recognized that small business is the primary generator of new jobs in Canada and is a major driver of the economy, information systems and processes are not set up to allow small business to easily access data, although they are often asked to give of their

FIGURE AUTO 24

Do You Foresee A Need To Hire Graduates From An Environmentally Related Course

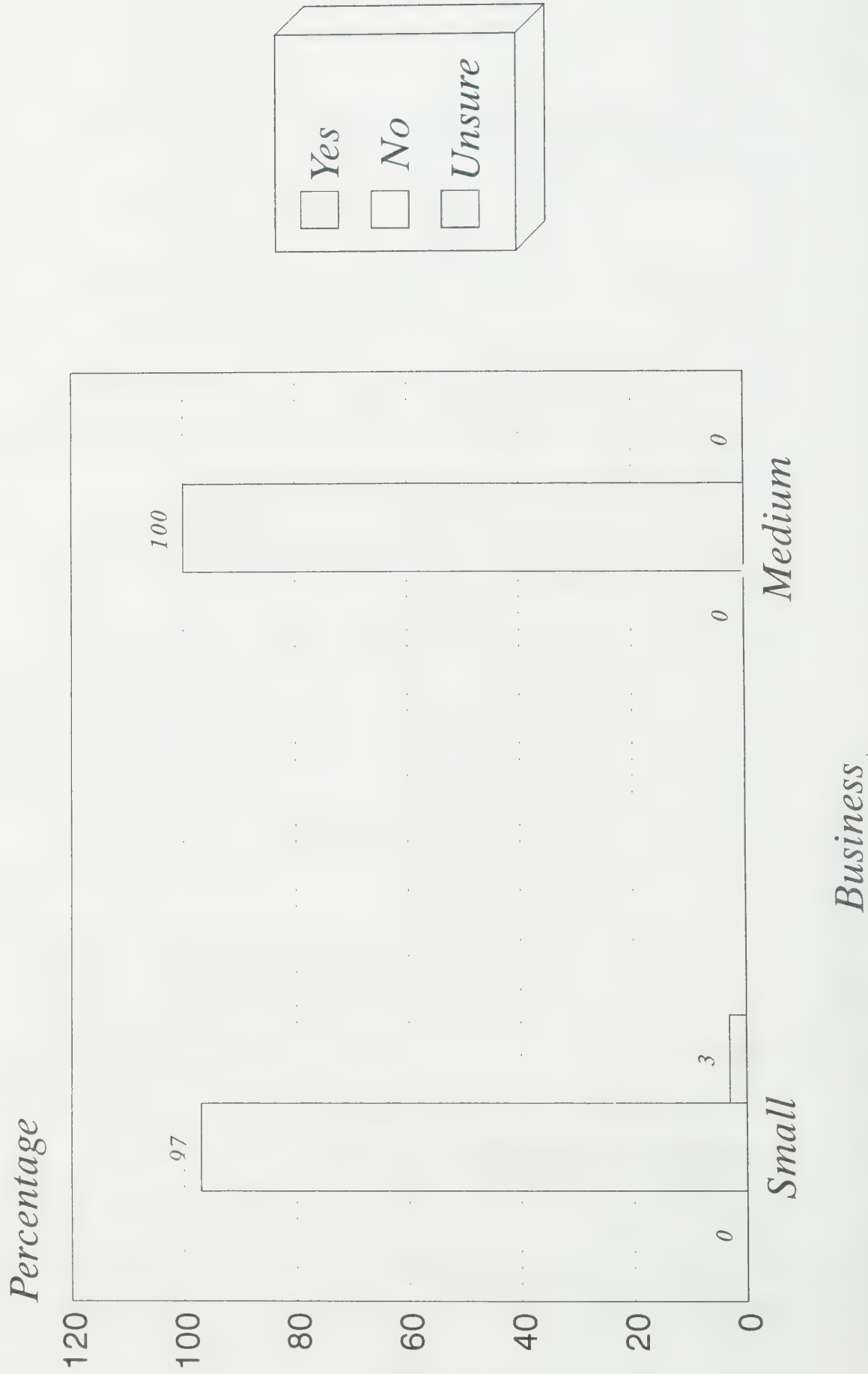


FIGURE AUTO 25

Did The Information Sheet Provided Helpful In Any Way

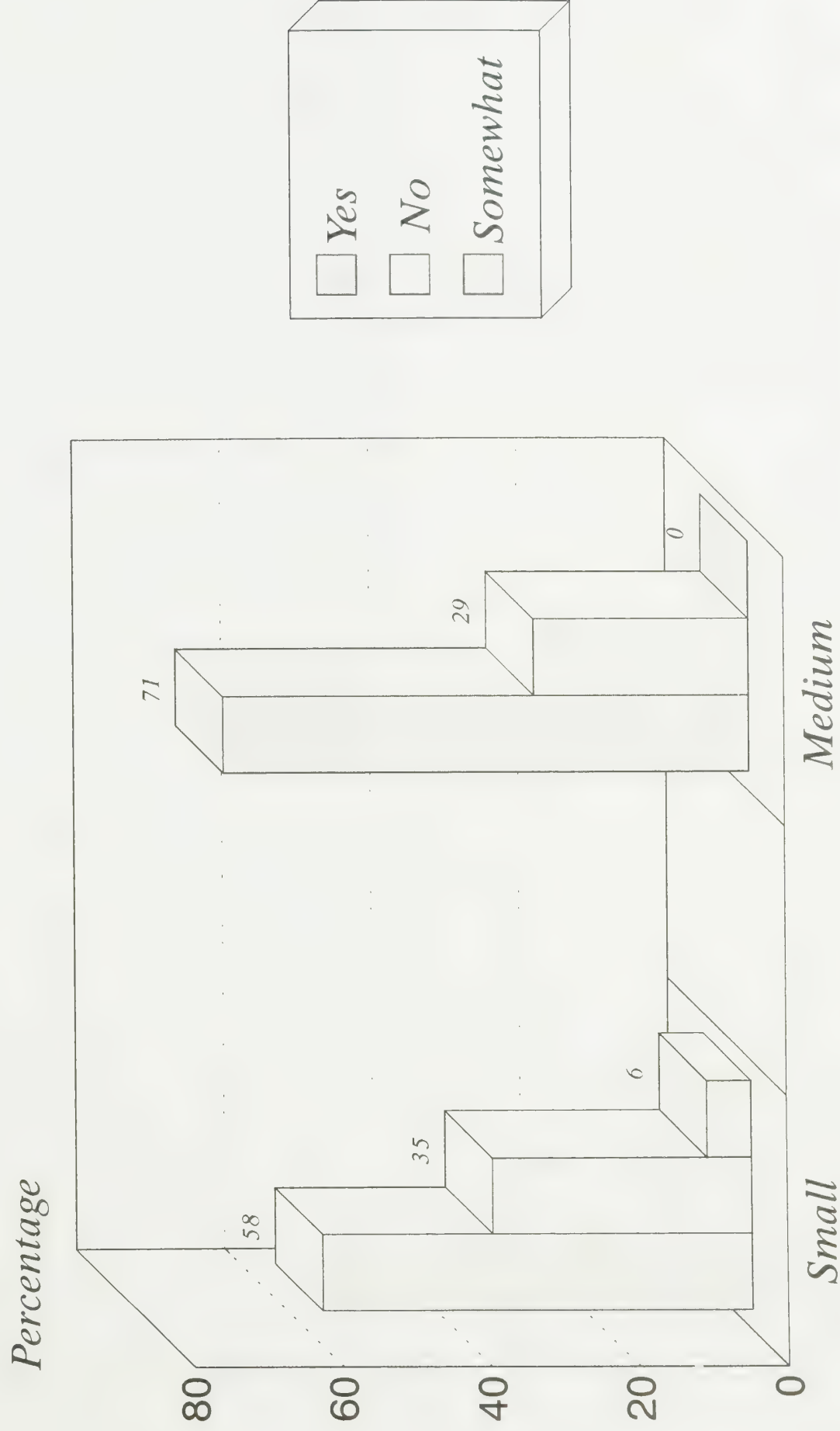
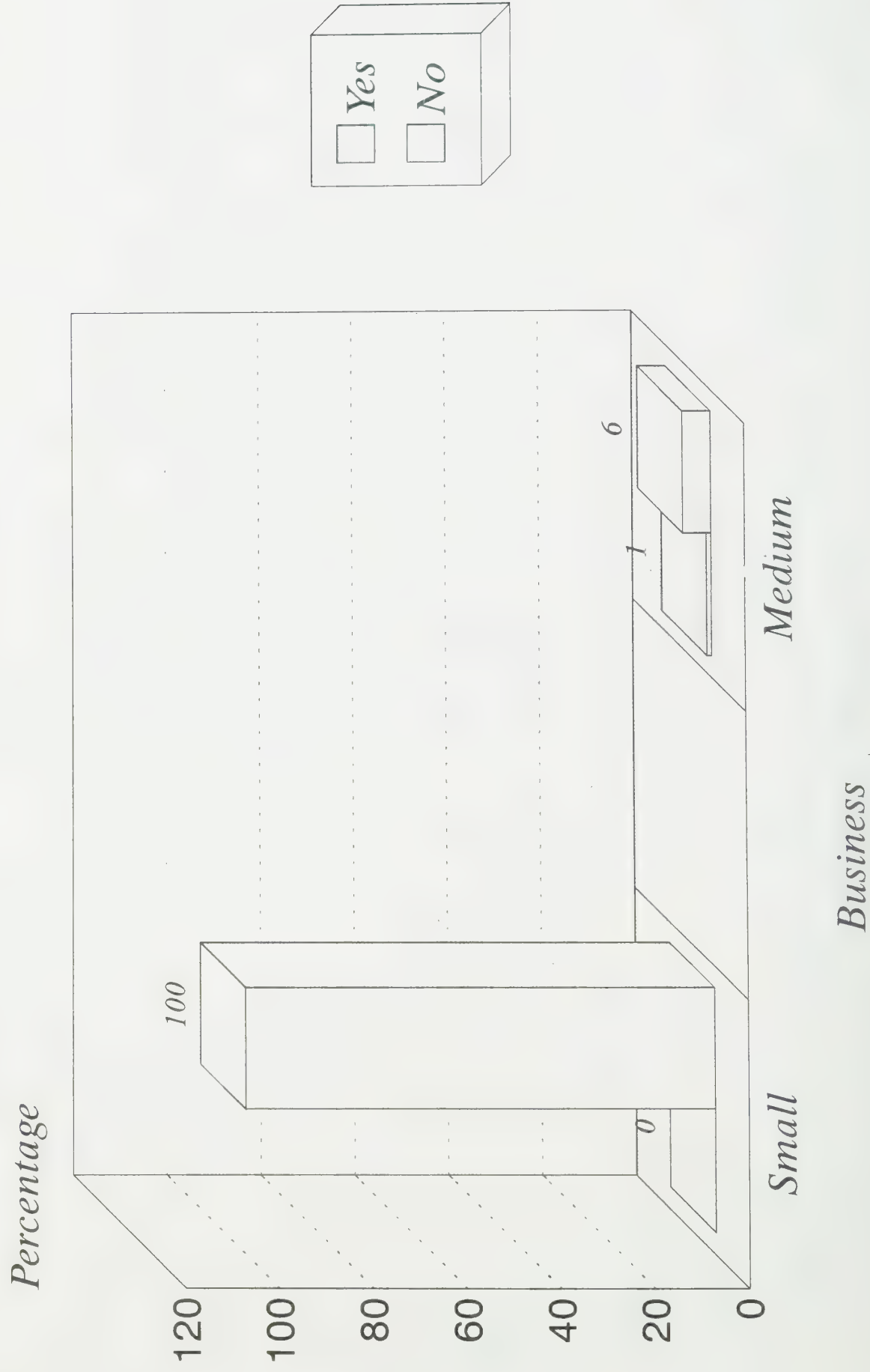


FIGURE AUTO 26

Did It Influence Any Of Your Answers After It Was Given To You



time to contribute toward the data collection process. As indicated earlier, the ability to deal with large amounts of information, particularly with small business in the tactile trades, is a commodity which needs to be enhanced. This process of exchanging information for information, which may lack basis in terms of scientific methodology, appears to be necessary as indicated by the number of businesses who viewed the information as helpful. It also appeared to have little impact on the way respondents answered the survey questions.

Health Care

tranSKILLS interviewed 72 representatives of companies within the health care field representing 23 per cent of the total survey population of 317 interviews. The health care field was characterized by private health care givers, public health care givers, nursing homes, dental practices, veterinary practices, medical clinics and funeral homes. Forty-two or 58 per cent of the respondents surveyed represented small business employing between 1-20 people, 12 or 17 per cent of the responses came from medium sized businesses employing 21-99 workers and 18 or 25 per cent of the responses came from large companies employing over 100 people. All surveys were conducted in person.

Job Title: Person on staff who perform environmental tasks.

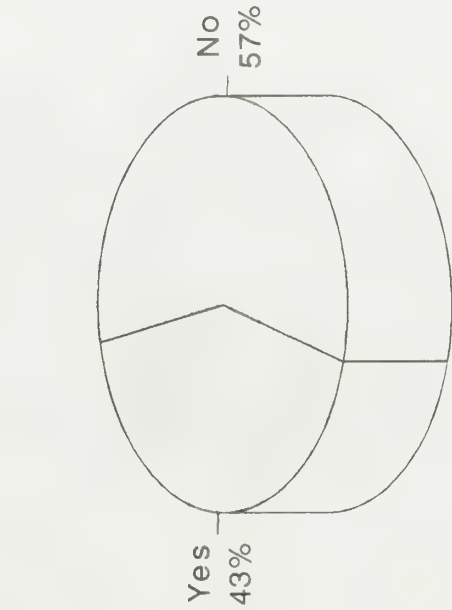
Does your company have someone on staff in charge of environmental issues?

These questions were asked to determine if companies were assigning specific environmental duties to workers and whether someone was ultimately responsible for the environment within a workplace. We hoped to determine if there was one occupation to which the responsibility of environmentally related tasks fell.

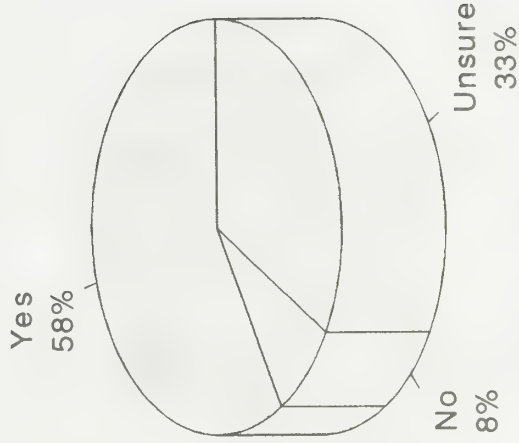
In the health care sector the responsibility for performing environmental tasks fell on 73 different occupations from the 72 companies surveyed. The diversity of the occupations was extensive ranging from company president to cleaner, receptionist to office manager and doctor to human resource officer. The majority of large companies (72%) tended to have some on staff directly responsible for environmental issues while the tendency to have someone in charge of environmental issues diminished with medium sized

FIGURE HC 1

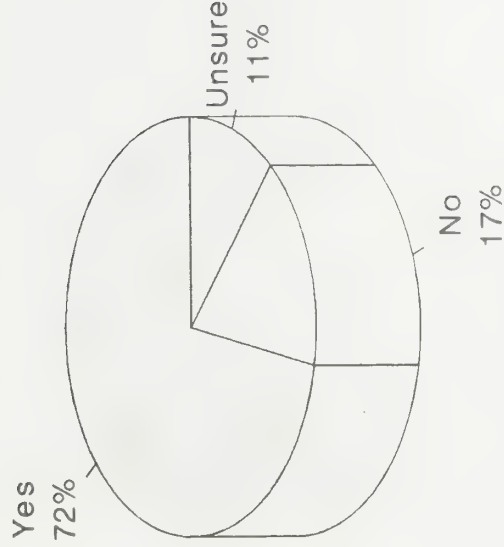
Does Your Company Have Someone On Staff Who Is In Charge Of Environmental Issues



Small Business



Medium Business



Large Business

☐ Yes ☐ No

companies (58%) and decreased further still with small companies (43%) (Figure HC 1).

As indicated by the diversity in occupations listed, environmental responsibilities appear spread across the workplace and, particularly in the case of small business, may make environmental adaptation and compliance easier as environmentally related tasks can be performed by a number of different employees. A difficulty arises when the environmental responsibilities become so great that the person responsible for them may not be the person carrying them out.

As companies continue to disperse environmental tasks and responsibilities to a series of employees it becomes critical that the training each employee receives, in his or her own discipline, be imbued with environmental compliance and adaptation information and processes.

How many people overall have been hired in the last year?

How many people do you need to hire today?

Have you had any difficulty in hiring?

Do you anticipate any new hires over the next 12 months due to growth?

Do you anticipate any new hires over the next 12 months due to staff replacement?

These questions, which appeared in different parts of the survey, have been placed together as they reflect the past and future growth of the sector surveyed. They also assist in anticipating any future needs and potential difficulties in meeting those needs.

A total of 304 full time and 108 part time people were hired by the 72 surveyed

FIGURE HC 2

Do You Anticipate Any New Hires Over The Next 12 Months Due To Growth

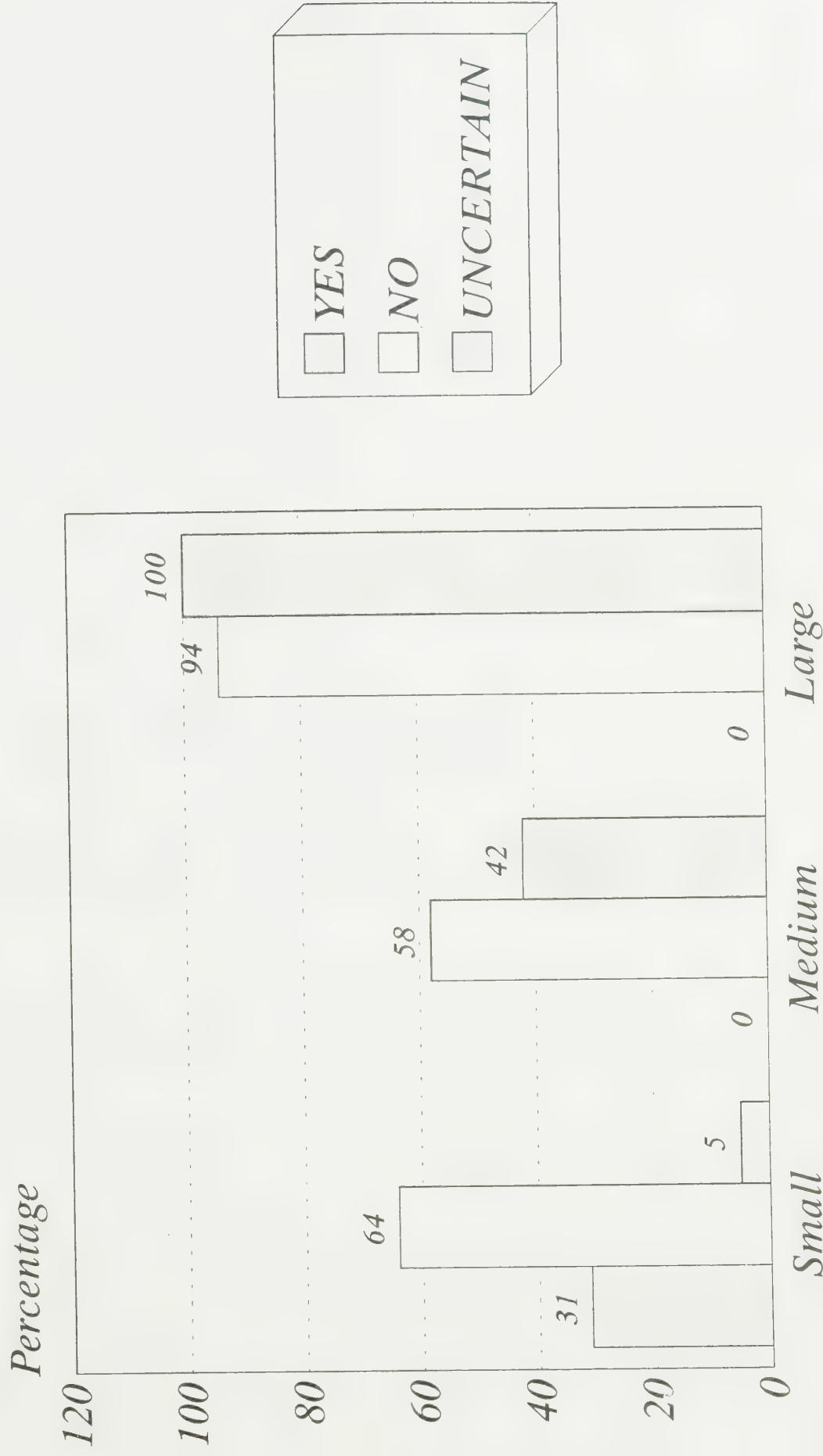
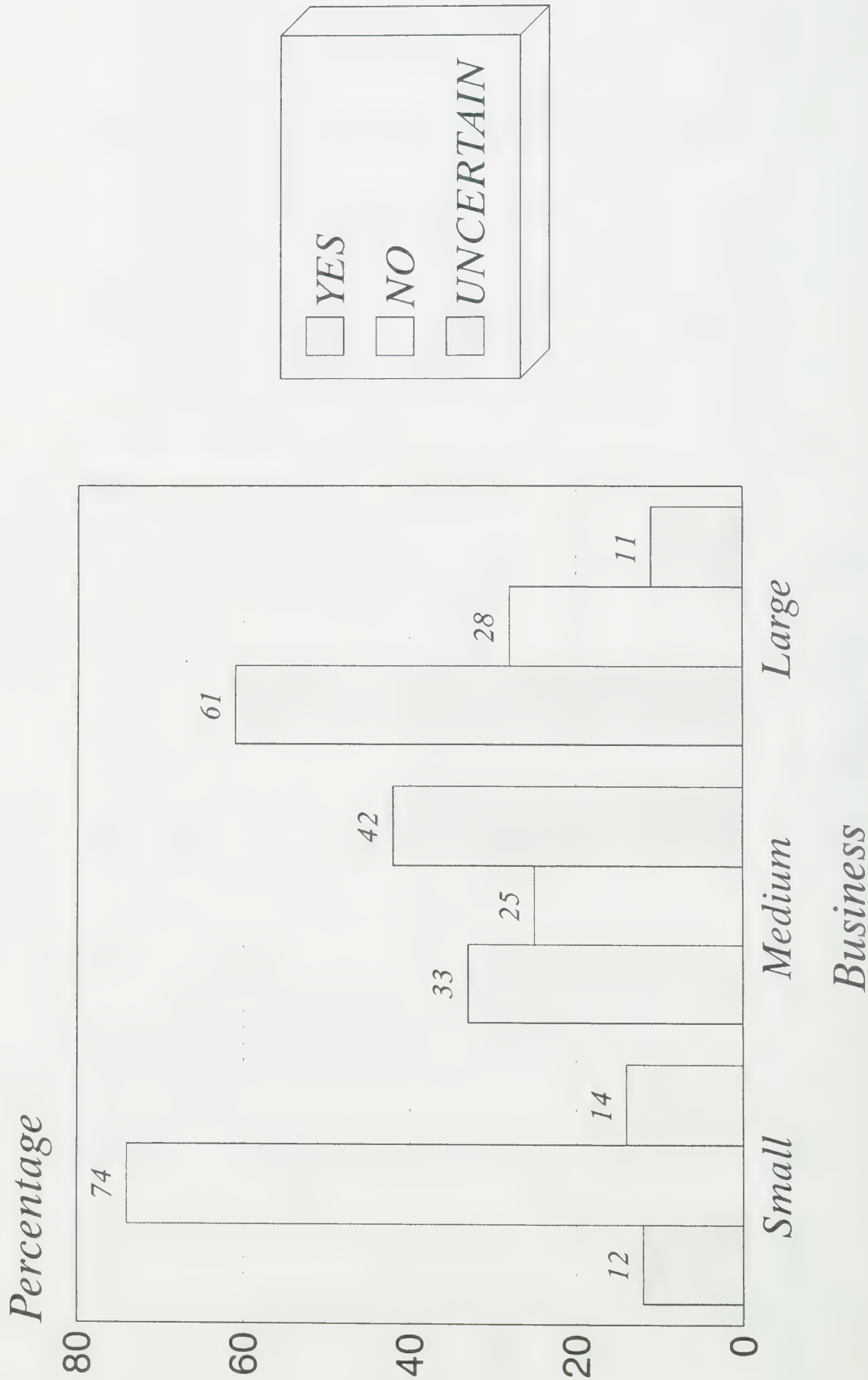


FIGURE HC 3

Do You Anticipate Any New Hires Over The Next 12 Months Due To Staff Replacement



companies over the period of the past year. Six of the large companies accounted for 282 of the full time people being hired, medium companies hired four and small operations hired 18 people. Two large companies also accounted for 90 of the part time hires, the remaining 18 part timers were hired by small business. The ability to hire new employees drops off dramatically as a total of 35 full time and 11 part time workers are needed today, all of those by medium sized companies with the exception of one position in a small business. None of the companies surveyed experienced any difficulty in hiring.

Small business appears to be driving growth for the upcoming year as 31 per cent of the companies surveyed anticipate the need to hire new employees while medium and large business do not expect to hire due to growth. (Figure HC 2). However, over 60 per cent of the large companies surveyed will be in a position to hire within the coming year in order to replace staff while 33 per cent of medium companies and 12 per cent of small companies also anticipate hiring to fill positions left vacant (Figure HC 3).

How many people on your staff require skills upgrading?

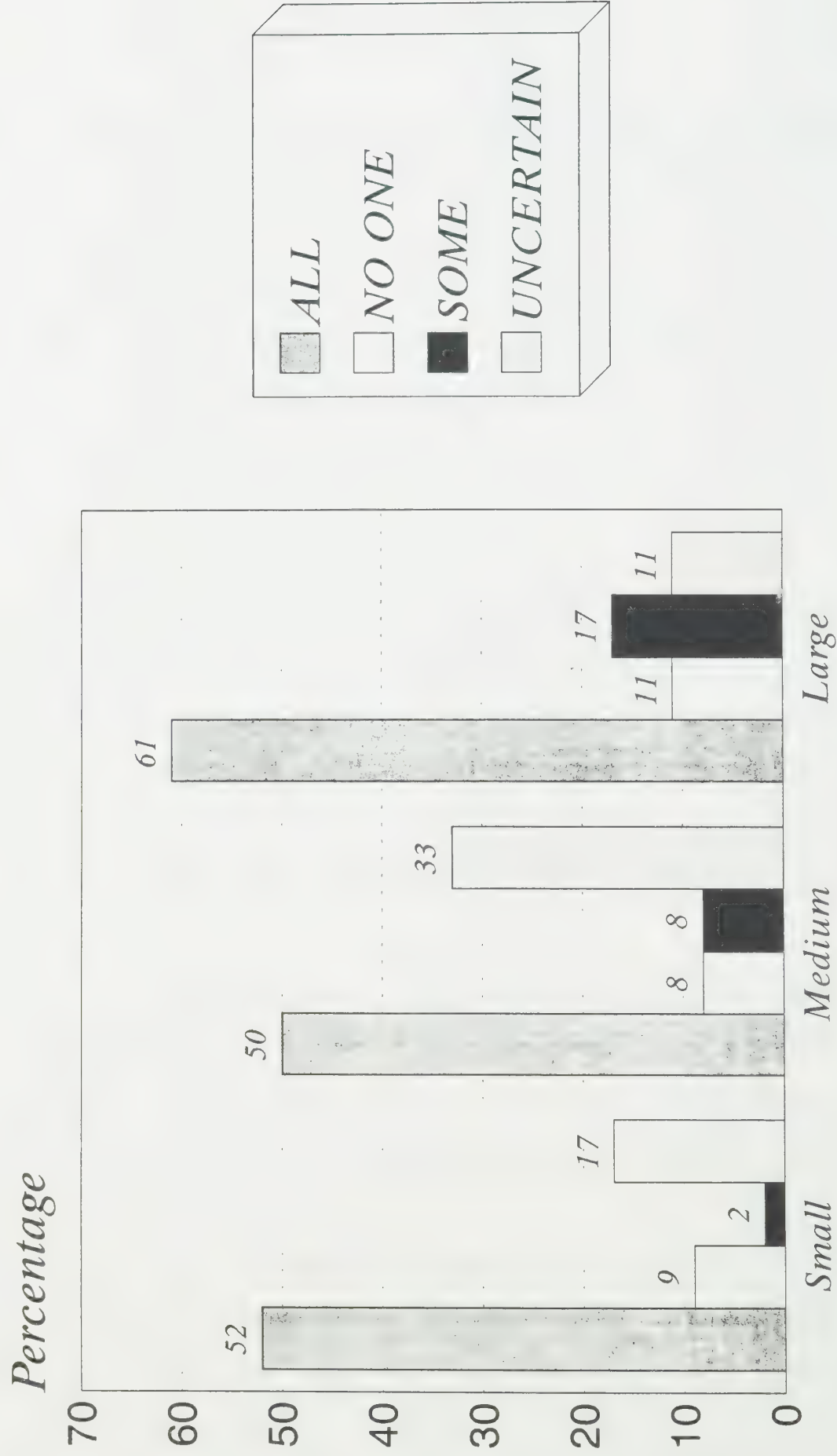
What are the skills your staff need in order to meet the current and future needs of your industry?

These questions were asked to determine the extent and type of training required?

In total 54 per cent of all companies responded that all of their staff required skills upgrading, 18 per cent said some staff did, 18 per cent were uncertain and 10 per cent claimed none of their staff required skills upgrading. Large companies indicated the

FIGURE HC 4

How Many People Of Your Staff Require Skills Upgrading



greatest desire for skills upgrading (61%) of all staff while approximately half of the medium and small businesses also indicated a desire for all of their staff to be upgraded. (Figure HC 4). Communications skills (42%) and computer upgrading skills (35%) were the predominant skill requirements of all companies, although a total of 82 distinct skill areas were indicated as being needed.

Do you plan on introducing new equipment next year?

What kinds of equipment?

What impact will this equipment have on the skill requirements of the occupations affected?

Do you plan on introducing new processing methods?

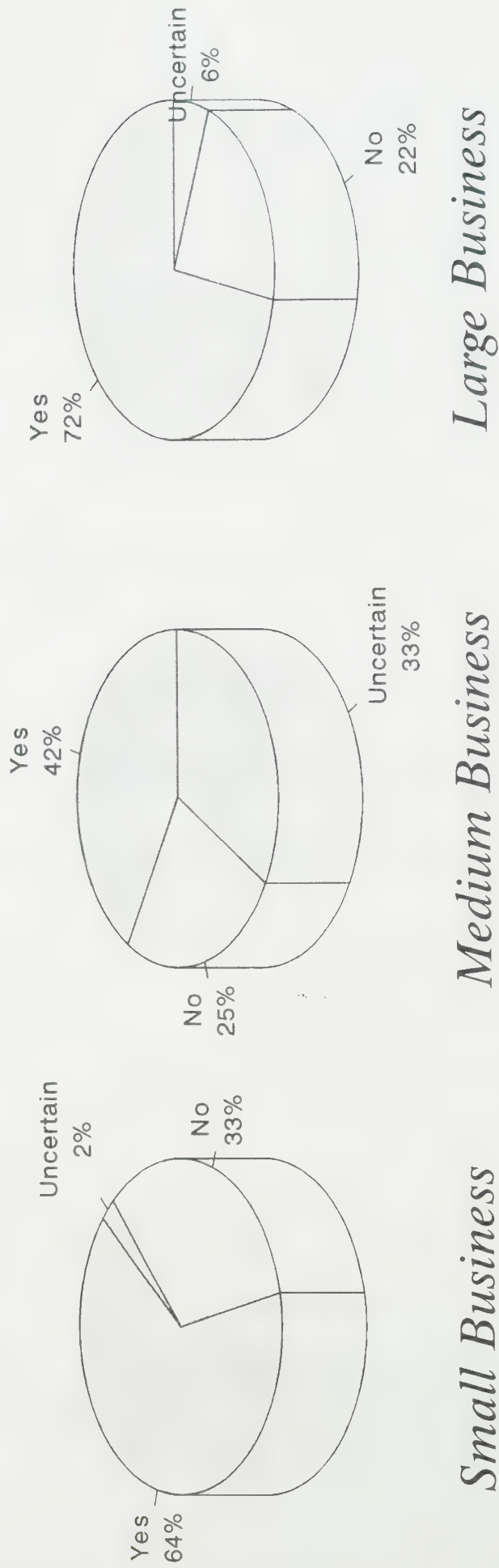
Can you describe the impact these new processing methods will have on the skill requirements of those affected?

To what extent do you expect technology to impact on your business in the next 2 to 3 years?

These questions were asked to determine the extent of change in each sector and the awareness of the effects that change will have.

The introduction of new equipment will take place in 72 per cent of the large companies surveyed, 42 per cent of the medium companies and 64 per cent of the small companies. (Figure HC 5). New processing methods will be introduced by 78 per cent of large companies, 50 per cent of medium companies and 48 per cent of small companies. (Figure HC 6). The impact these changes will have on the skill requirements of those effected are varied and encompass over 40 different skill areas, ranging from specific

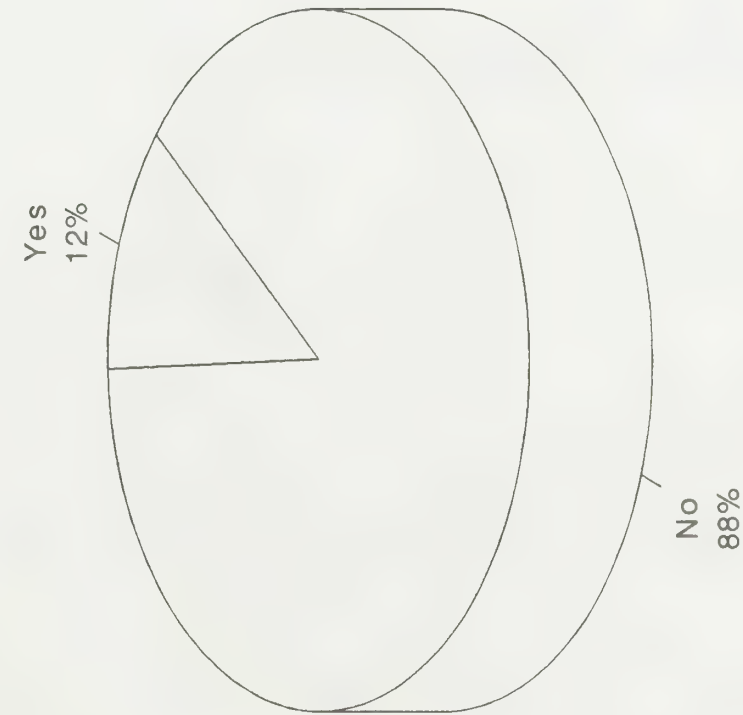
FIGURE HC 5
Do You Plan On Introducing New Equipment Next Year



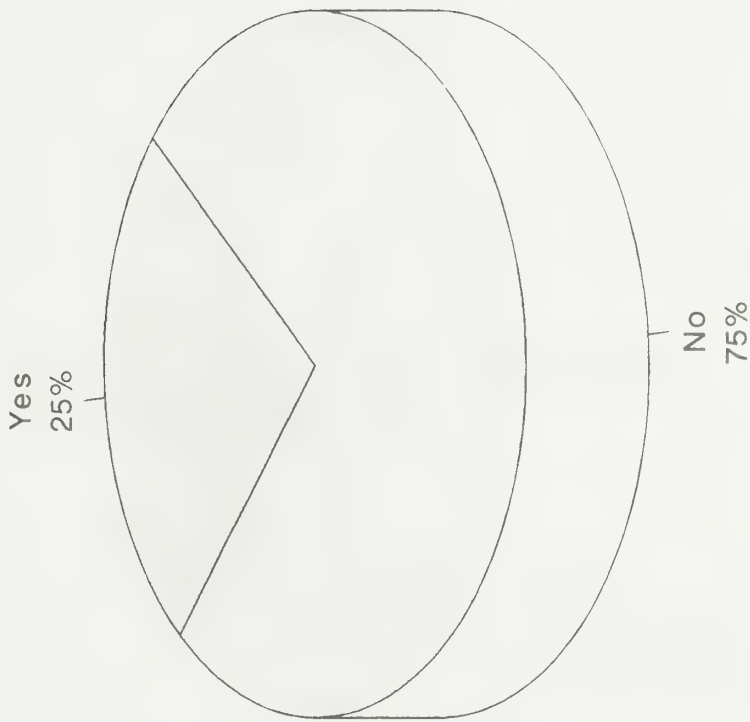
☐ Yes ☐ No ☐ Uncertain

FIGURE HRAC 6

Do You Plan On Introducing New Processing Methods



Small Business



Medium/Large Business

☐ Yes ☐ No

training on new equipment to the ability to take a more proactive approach. Overall, the impact technology will have over the next 2 to 3 years is seen as either non-existent, minimal or moderate by 64 per cent of the companies while 29 per cent perceive a substantial or very substantial impact. (Figure HC 7).

More so than most industries, the health care industry has always been subject to rapid and dynamic change. New technologies, medications, treatments and laws have equipped the industry with the ability to deal effectively with the demands placed upon it in terms of training. The positive correlation between the introduction of new technologies and processes and the foresight to identify the impact these changes will have on skill requirements is reflective of this ability. This is also reflected in the perception that technological change will have only a moderate to minimal impact on business as the facility to deal with change and the awareness that it is coming produces less of an impact. It becomes clear that in a highly regulated industry such as health care the necessity of having to deal quickly with information is an advantage when it comes to keeping pace with change, whether in the form of regulations, processes or technology.

Is your business currently regulated by an environmental government department?

Do any of your staff require environmental certification to perform their jobs at present?

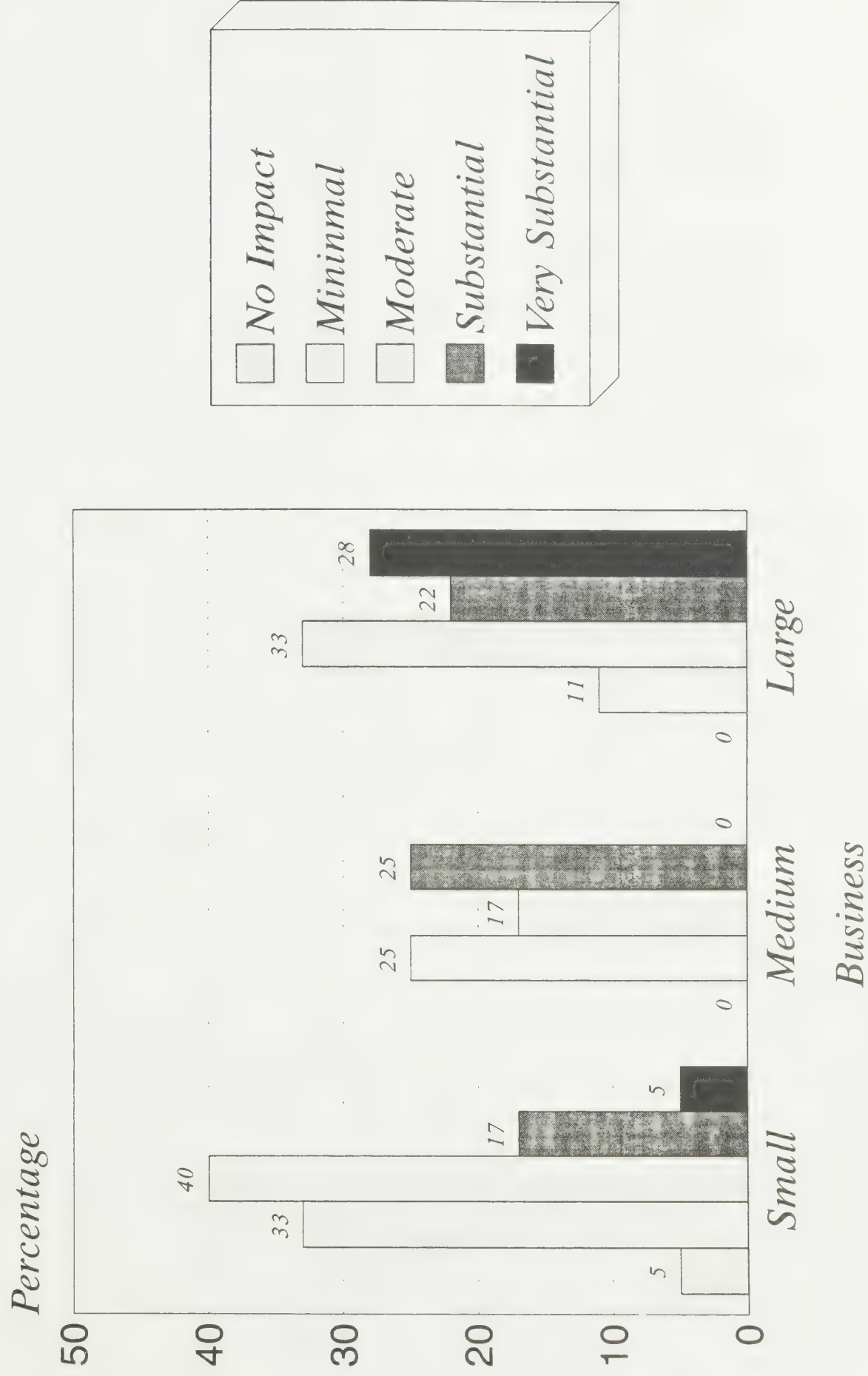
Are any of your staff able to identify critical functions related to the environment?

Do you currently train your staff on environmental issues?

Have any of your employees attended seminars or courses related to the environment?

FIGURE HC 7

Expected Technology Impact On Your Business In The Next 2 To 3 Years



These questions were asked to determine the degree of business awareness and response regarding the environment.

In some form or another, all business can be subject to enforcement by an environmental branch of government at different levels. Only one large company (6%) and no medium sized companies said they were not regulated while 48 per cent of small companies did not realize they were regulated by an environmental government department. (Figure HC 8). While the large majority of companies had staff who were able to recognize critical functions related to the environment (Figure HC 9), overall, 76 per cent of the companies did not indicate they had members of their staff who required environmental certification in order to do their jobs. (Figure HC 10). The training of staff in environmental issues occurred in 83 per cent of the large companies, 67 per cent of the medium companies and 50 per cent of the small companies. (Figure HC 11), while 89 per cent of large employers, 58 per cent of medium employers and 29 per cent of small employers have had staff attend seminars or courses related to the environment. (Figure HC 12).

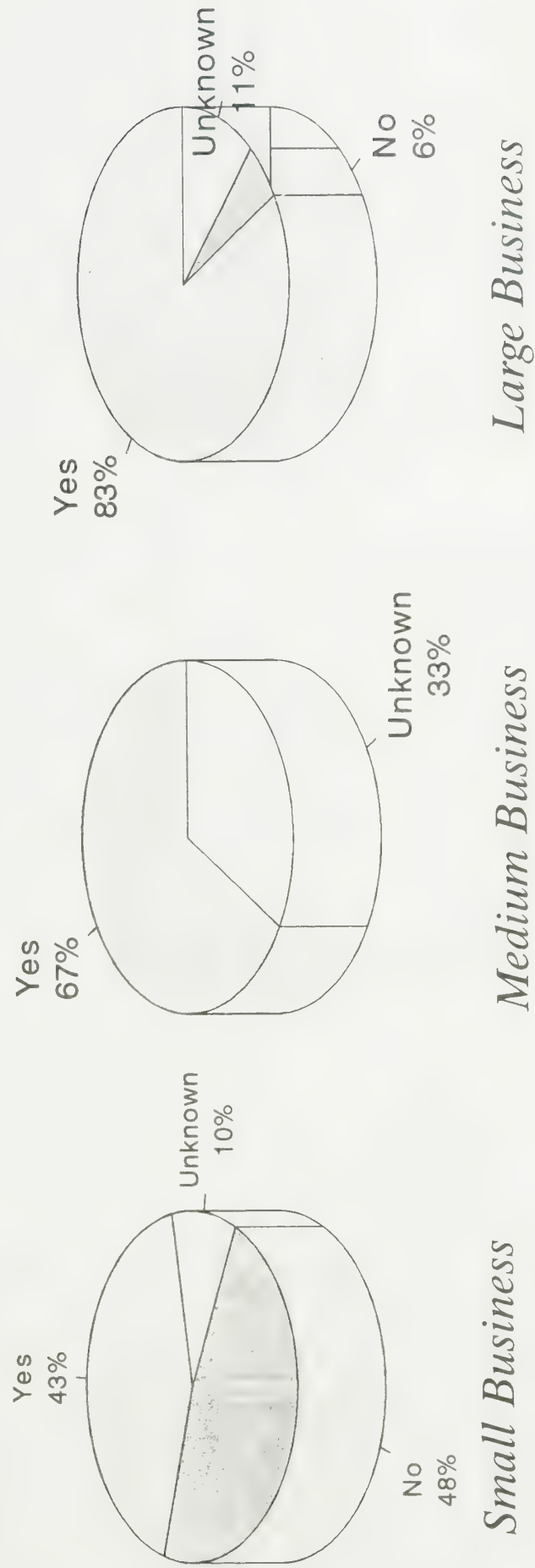
It is a positive sign within the health care industry that the environmental training that is taking place exceeds by a large margin the environmental certificates required for a worker to perform a task. As stated, the ability of the industry to handle information and technology appears to assist in the efficiency of responding to non-regulated needs.

Which of the following areas are of concern in the operation of your company?

This question provided the company with eight choices and was asked to determine specific areas of environmental concern.

FIGURE HC 8

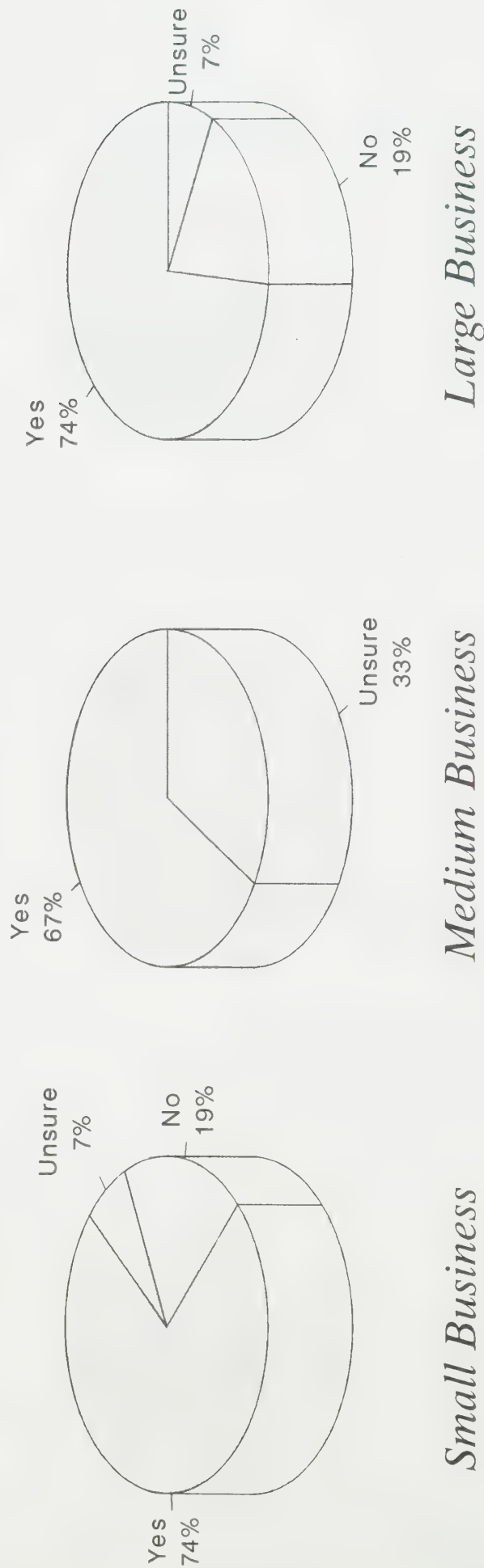
Is Your Business Regulated By An Environmental Government Department



☐ Yes ☐ No ☐ Unknown

FIGURE HC 9

Are Any Of Your Staff Able To Identify Critical Functions Related To The Environment



☐ Yes ☐ No ☐ Unsure

FIGURE HC 10

Do Any Of Your Staff Require Environmental Certification To Perform Their Job

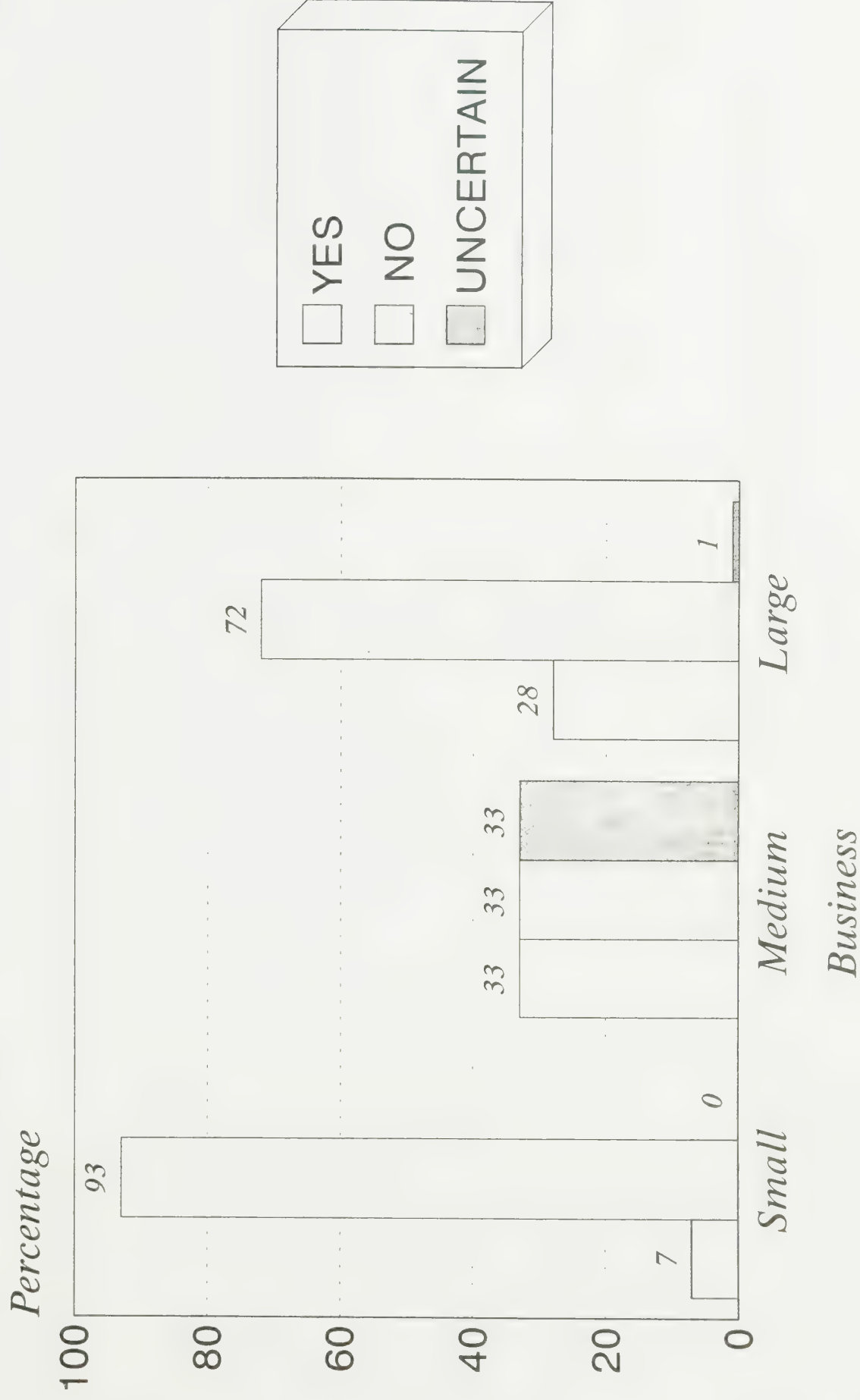
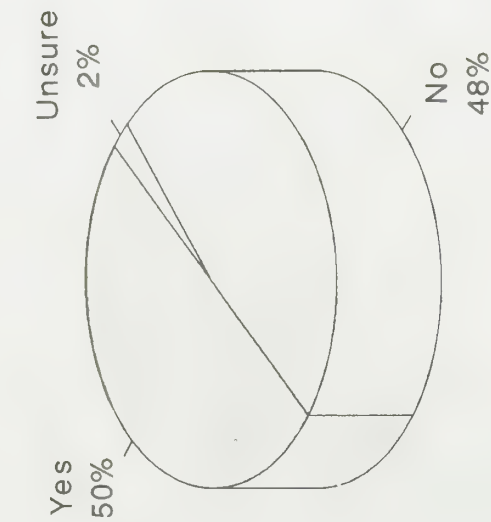
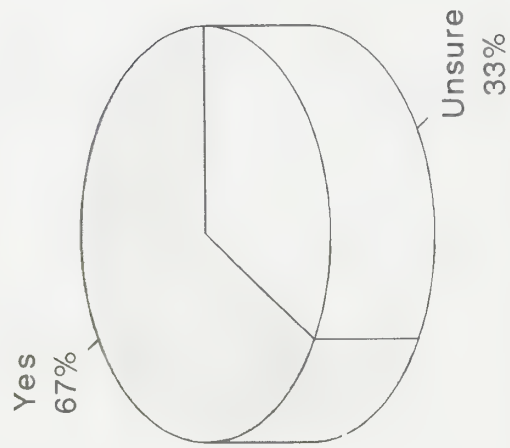


FIGURE HC 11

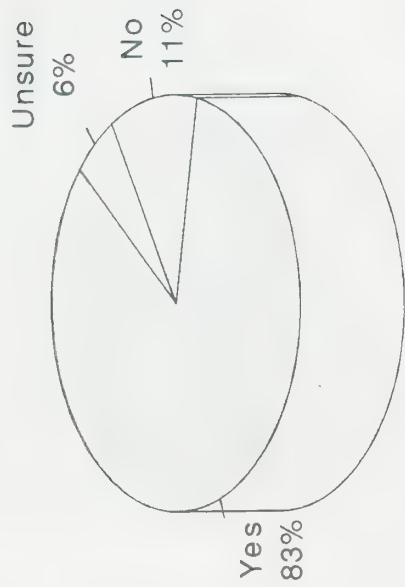
Do You Currently Train Your Staff On Environmental Issues



Small Business



Medium Business



Large Business

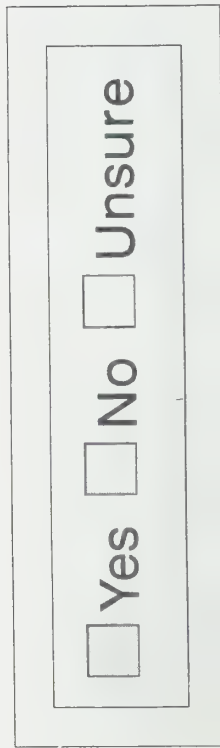
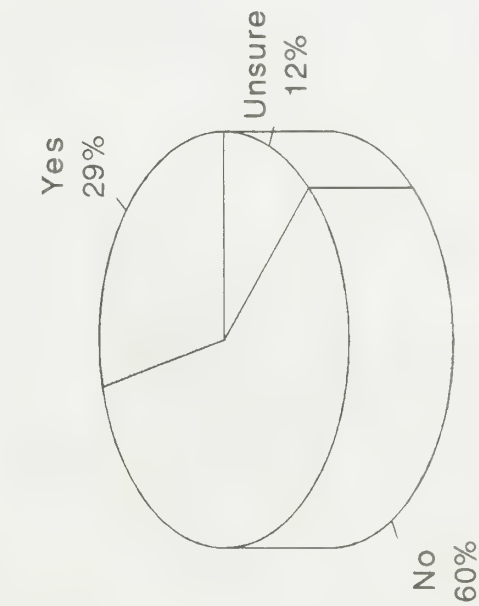
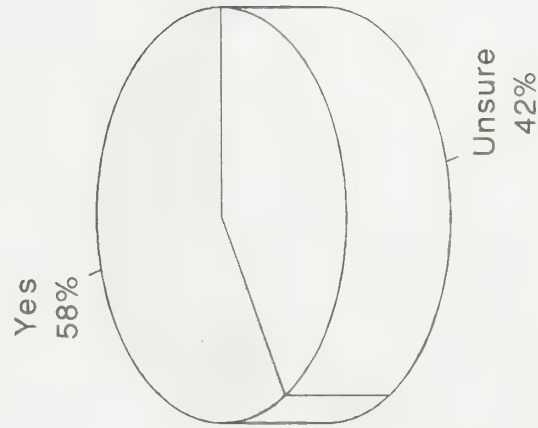


FIGURE HC 12

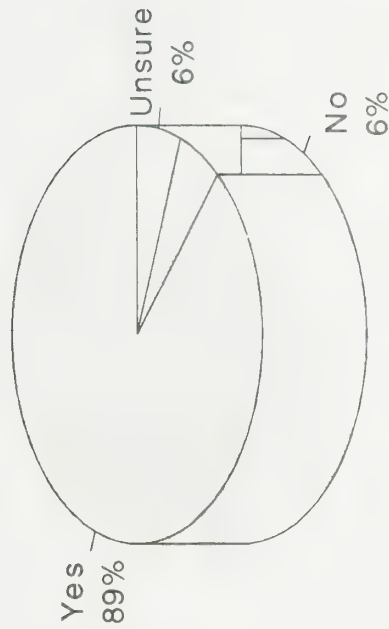
Have Any Of Your Employees Attended Seminars Or Courses Related To The Environment



Small Business



Medium Business



Large Business

☐ Yes ☐ No ☐ Unsure

Overall, recycling (69%), air quality control (54%), solid waste (51%), toxic waste (46%), legislative compliance (44%) and liquid waste (43%) were of predominant concern to most health care companies, while water quality (29%) and depletion of natural resources (21%) were of a lesser concern. The number of large companies (Figure HC 13) concerned with these issues outranked the medium (Figure HC 14) and small (Figure HC 15) companies in seven of the eight categories.

Does your business participate now or have future plans for:

Reduction Re Use Recycling Material Substitution Initiatives

This question was asked to determine the involvement of business in the most common of environmental practices.

A full 86 per cent of companies surveyed indicated they are already or will be involved in a recycling program. Re-use (74%), reduction (72%) and material substitution strategies (60%) (Figure HC 16) programs are also in the plans or are currently present in the majority of surveyed firms.

These results, with the exception of recycling, indicate higher levels of participation in these environmental activities than is evidenced in most other sectors. While we have already noted the ability of the health care sector to react proactively to change it may also be important to find out what these companies are doing to encourage these activities.

Does your company require suppliers to comply with environmental practices?

This question was asked to provide further indications as to whether environmental

FIGURE HC 13

Which Of The Following Areas Of The Environment Are of Concern In The Operation Of Your Business

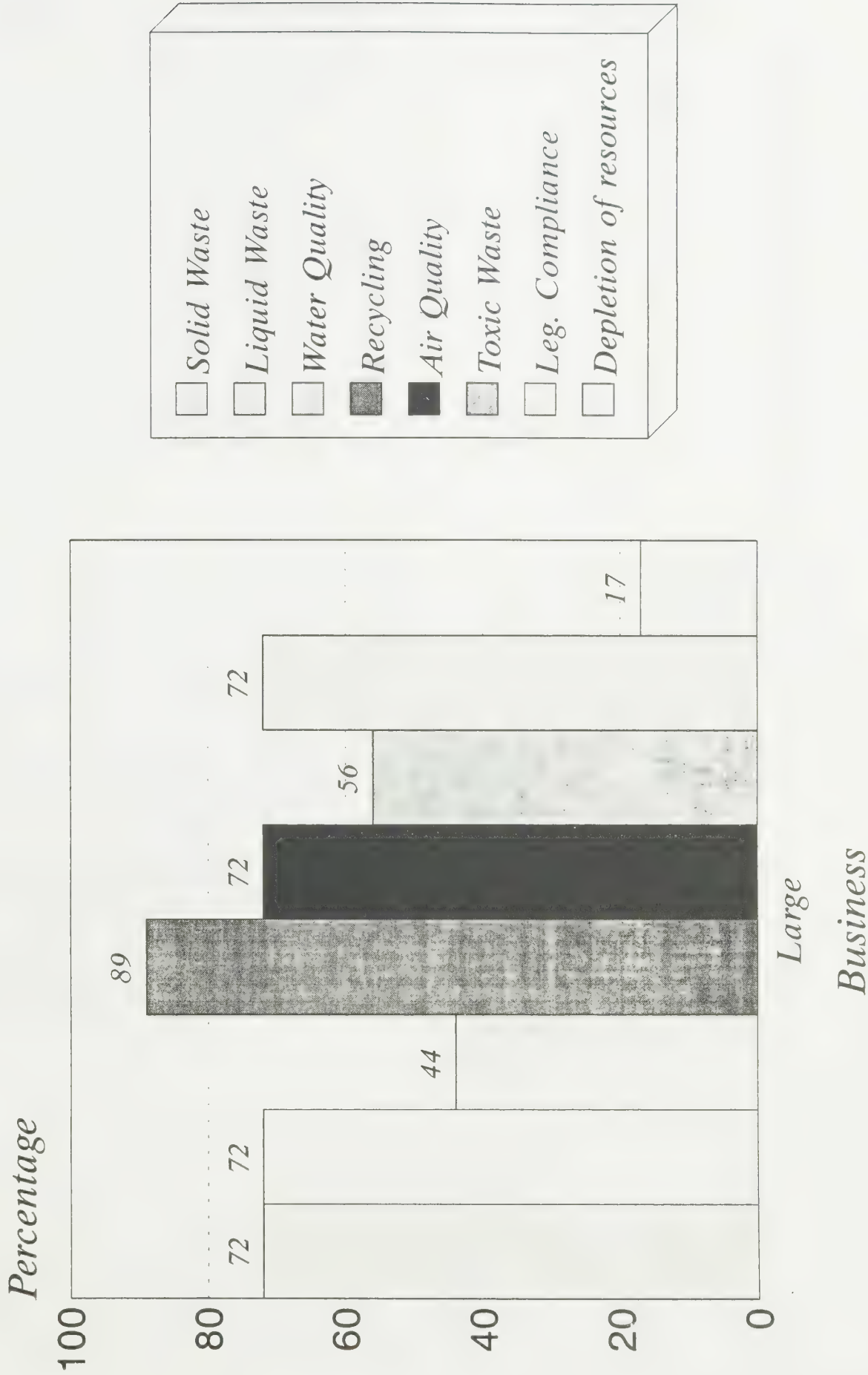


FIGURE HC 14

Which Of The Following Areas Of The Environment Are Of Concern In The Operation Of Your Business

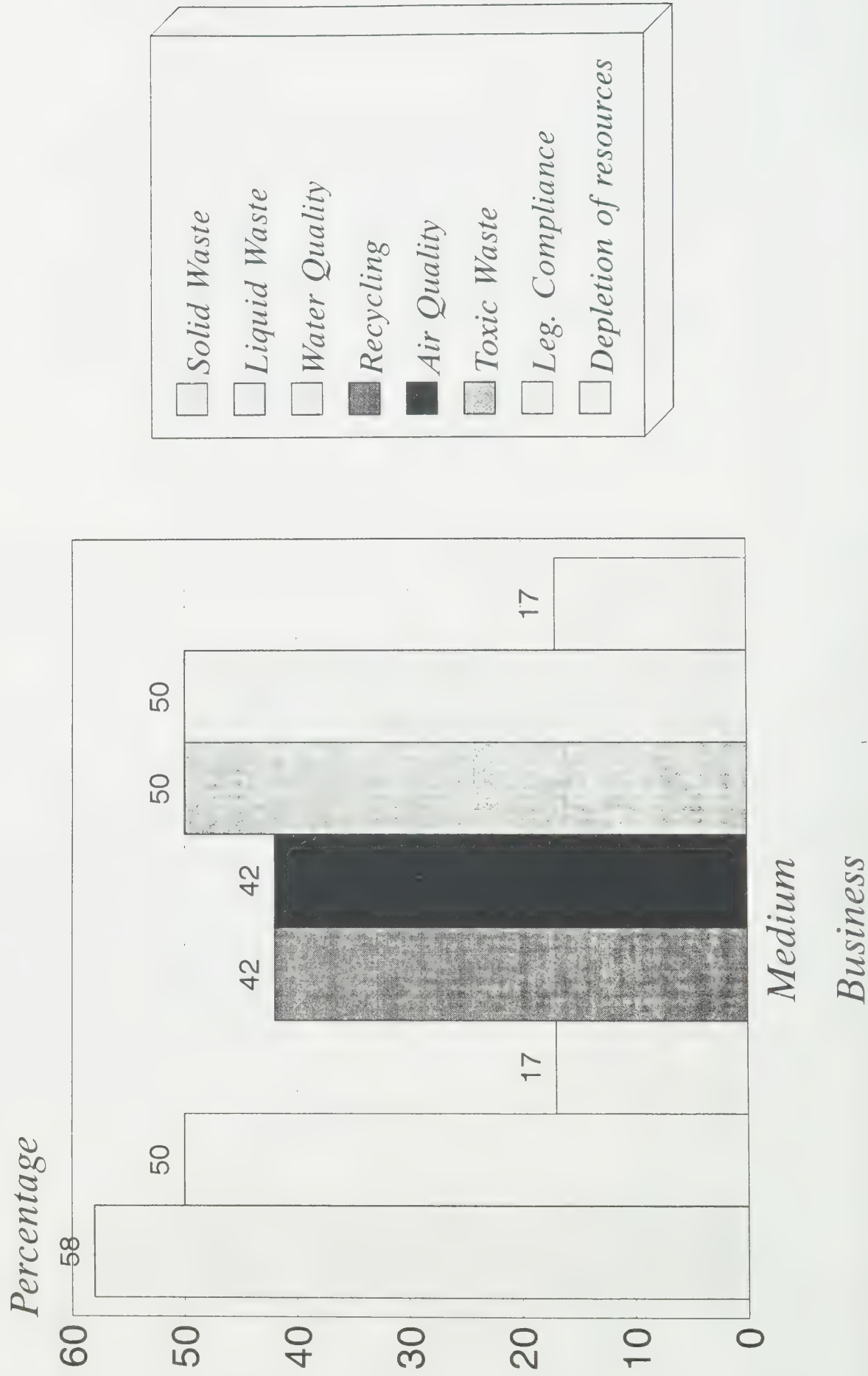


FIGURE HC 15

Which Of The Following Areas Of The Environment Are Of Concern In The Operation Of Your Business

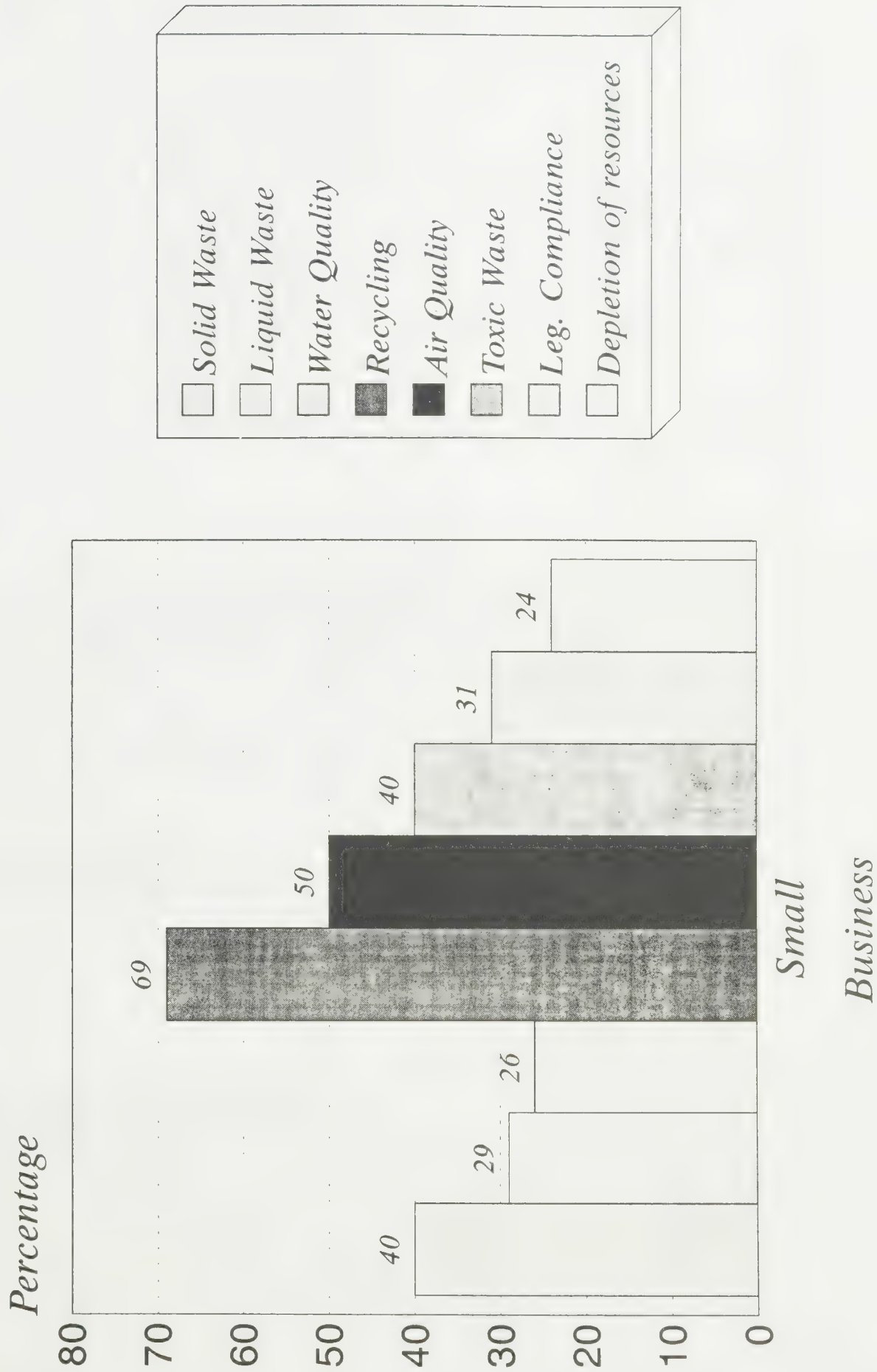
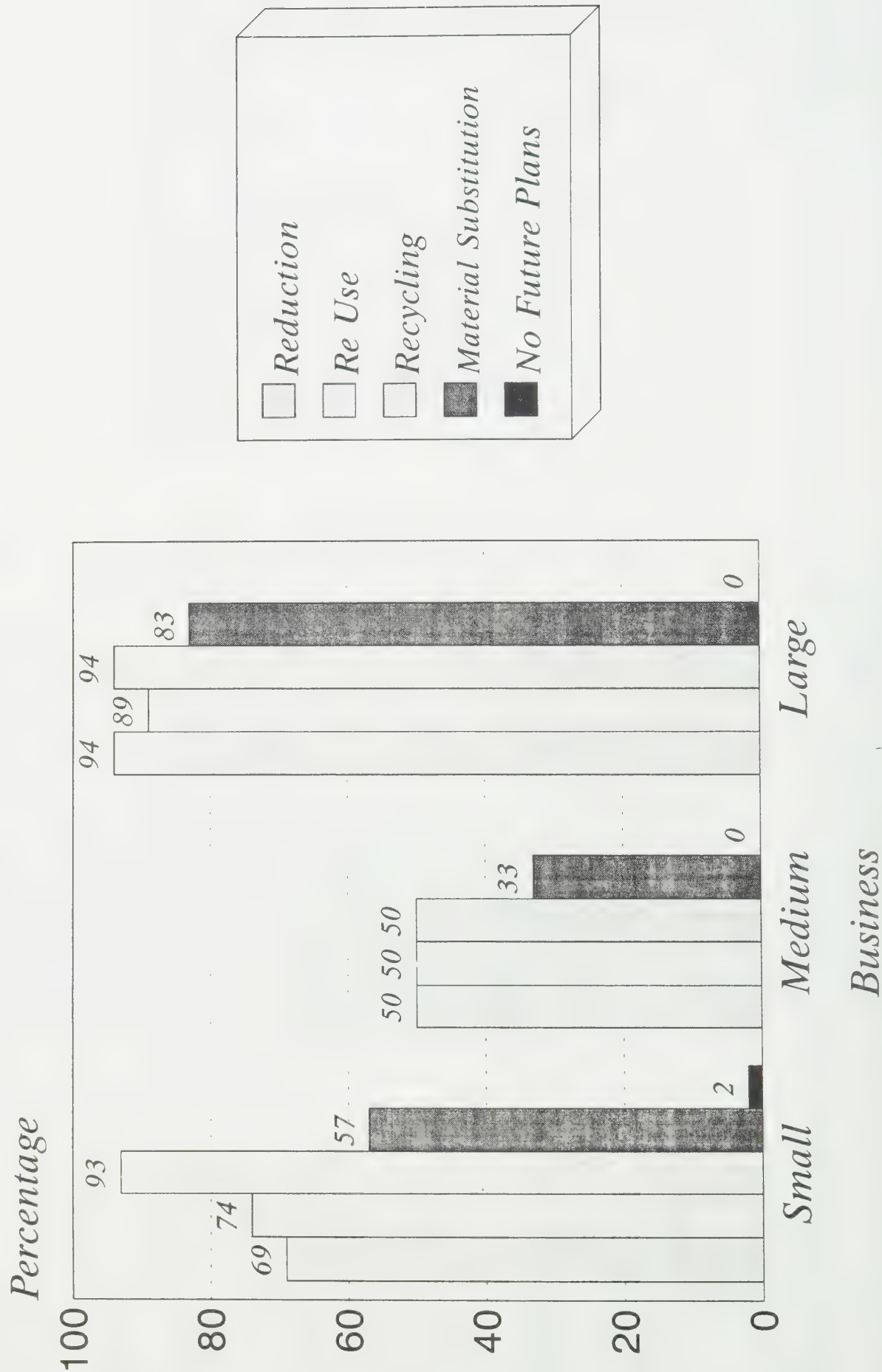


FIGURE HC 16

Current Or Future Business Participation In Reduction, Re-Use, Recycling & Material Substitution



concerns are becoming a regular part of business practice.

In total, 67 per cent of companies surveyed indicated they do require their suppliers to comply with environmental practices. Seven-teen per cent said they did not while another 17 per cent were unsure. (Figure HC 17). As in other industries, the health care sector is also demanding suppliers to become more environmentally sound.

Which of the following aspects of environmental legislation are most difficult for your business?

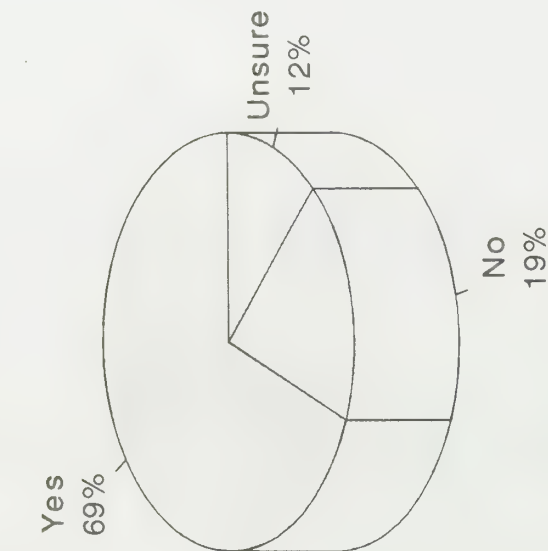
This question was asked to identify areas of compliance and compliance related issues with which business was experiencing the most trouble.

Keeping abreast of new laws (47%), cost of compliance (38%), increase fees (32%), and increased paperwork (24%) presented the health care sector with the most difficult. Inspections (13%) and taxes (13%) did not pose as great a problem. A high number of respondents (21%) also indicated they had no difficulties. Within the large (Figure HC 18), medium (Figure HC 19) and small (Figure HC 20) health care organizations the ability to stay on top of changing legislation was ranked as the number one or two concern.

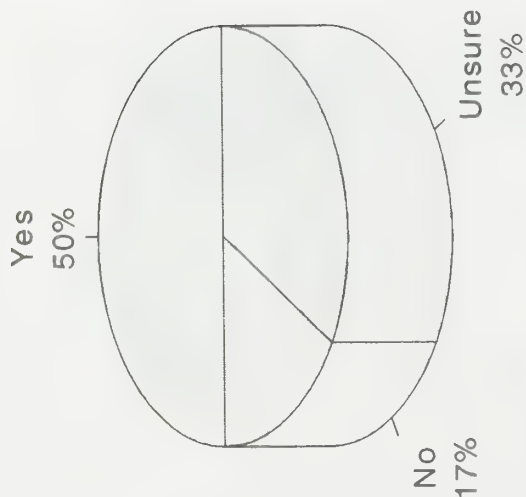
Overall, the health care sector displays fewer difficulties with environmental legislation than most other sectors surveyed. In fact, one out of five respondents had no difficulties at all. As stated, the nature of the industry, that is, highly regulated and rapidly changing, makes it better equipped to deal with new laws. However, close to half of the businesses surveyed still found it difficult to keep on top of changing legislation and one-third cited

FIGURE HC 17

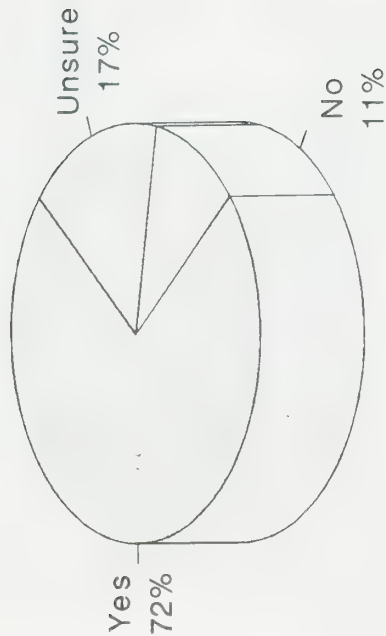
Does Your Company Require Suppliers To Comply With Environmental Practices



Small Business



Medium Business



Large Business

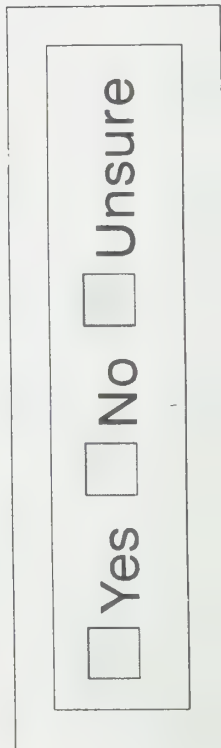


FIGURE HC 18

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business

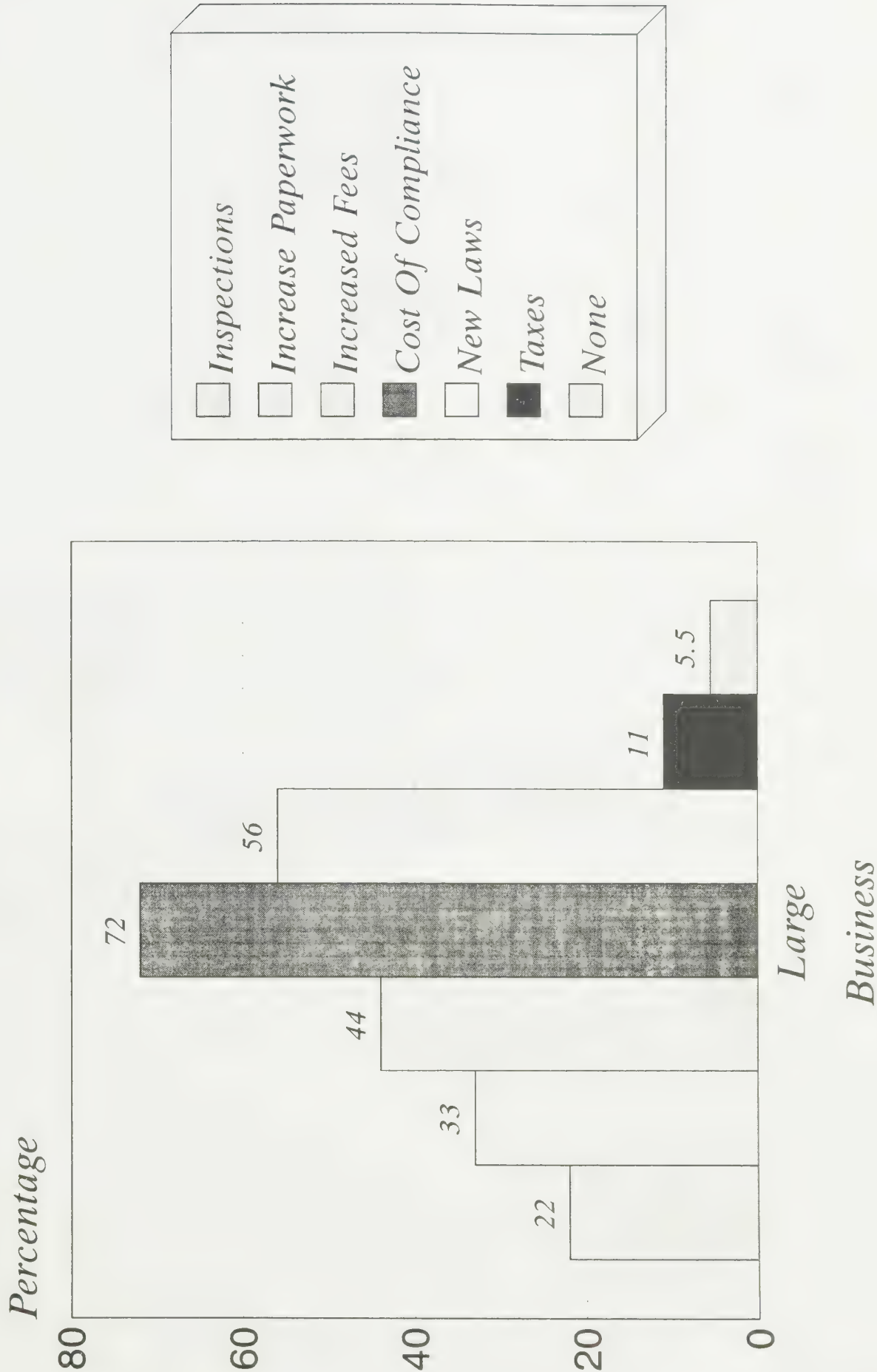


FIGURE HC 19

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business

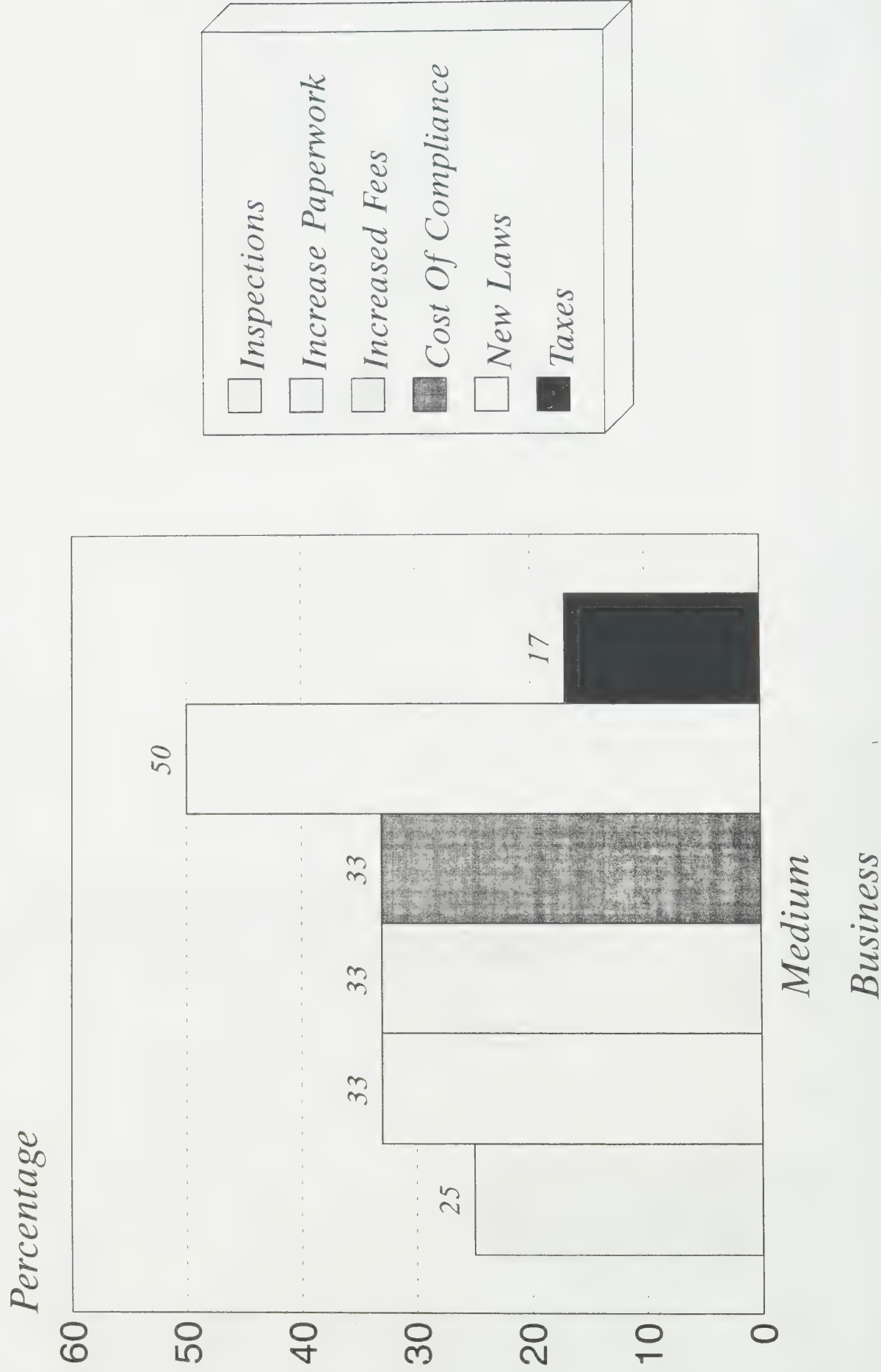
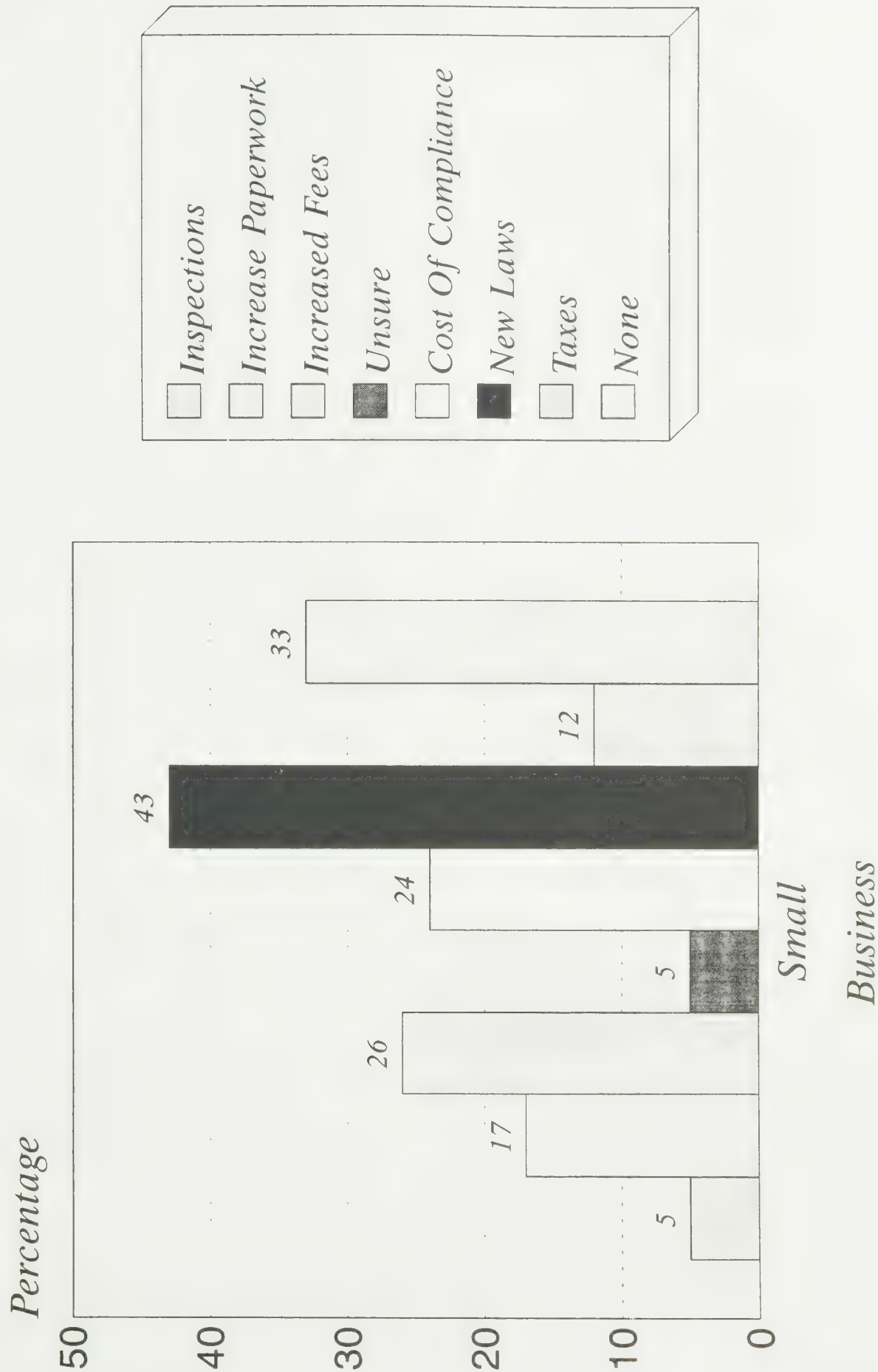


FIGURE HC 20

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business



the costs of change (increased fees, cost of compliance) as difficult. Even in an information intensive environment such as health care, there remains a high degree of difficulty in keeping pace with government demands regarding the environment. This furthers the need for a more proactive approach by regulating bodies which are insisting upon change without fully considering the impact of their demands on business.

What type of environmental training do you feel would benefit your company most?

This question was asked to determine the immediate and specific skill requirements of business in areas relating to the environment. Twelve choices were given.

Disposal alternatives (53%), hazardous waste management (42%), material substitution (42%) and legislative compliance (39%) were indicated as the greatest training needs for health care organizations. There was moderate demand for technological innovation (19%), financial planning (17%), and testing procedures (17%), while there was little demand for training in sewage treatment (11%), emissions (6%) and gas recovery (4%). Both large (Figure HC 21) and medium (Figure HC 22) sized organizations indicated the greatest need for training in disposal alternatives, while small companies (Figure HC 23) saw a greater need for material substitution training.

Even with it's ability to react to change and work within a highly regulated environment, the health care sector still showed a large demand for training, particularly relating to the handling of material.

What is the largest barrier to environmental training of your staff?

FIGURE HC 21

What Type Of Environmental Training Do You Feel Would Benefit Your Company The Most

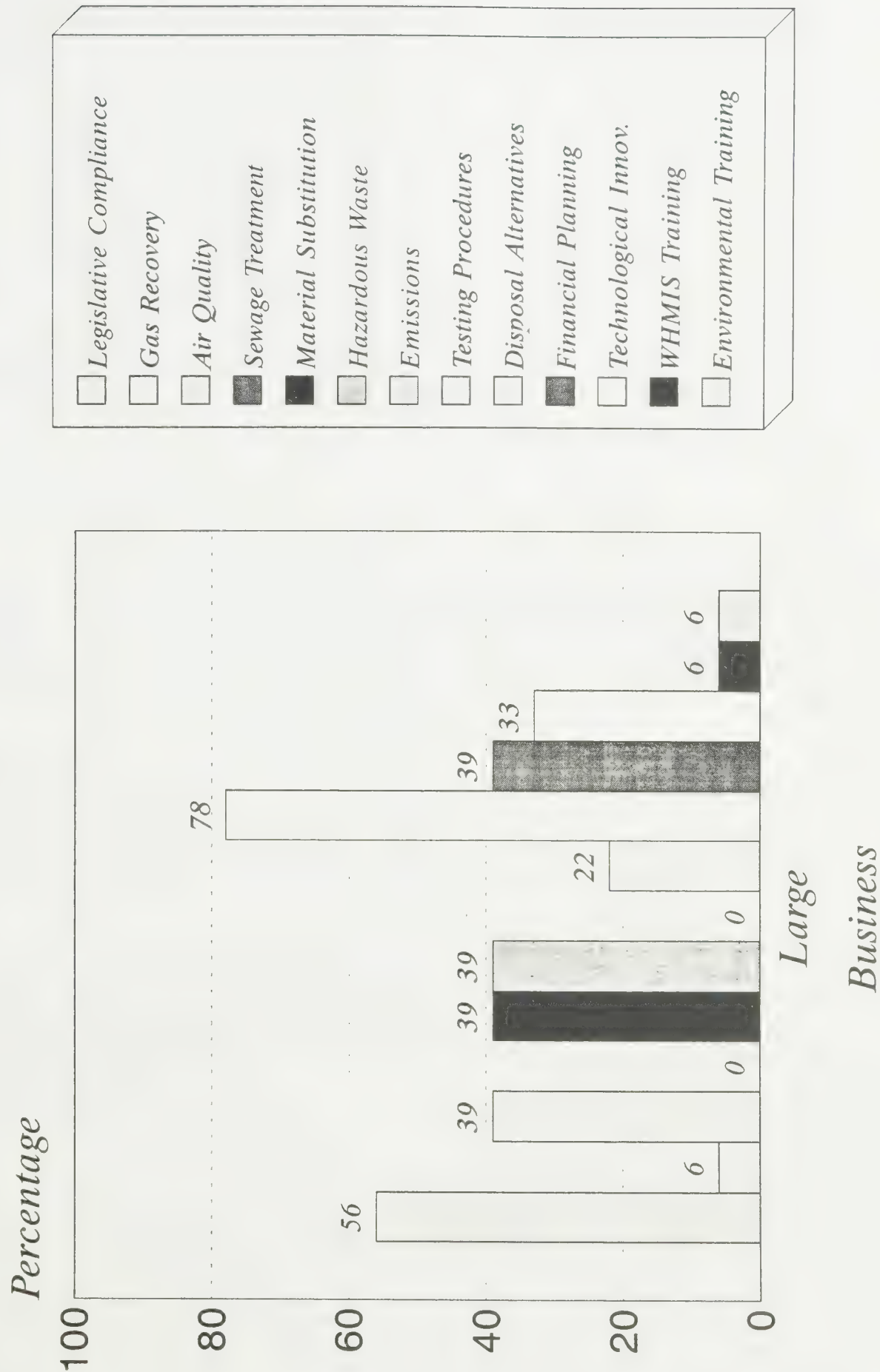


FIGURE HC 22

What Type Of Environmental Training Do You Feel Would Benefit Your Company The Most

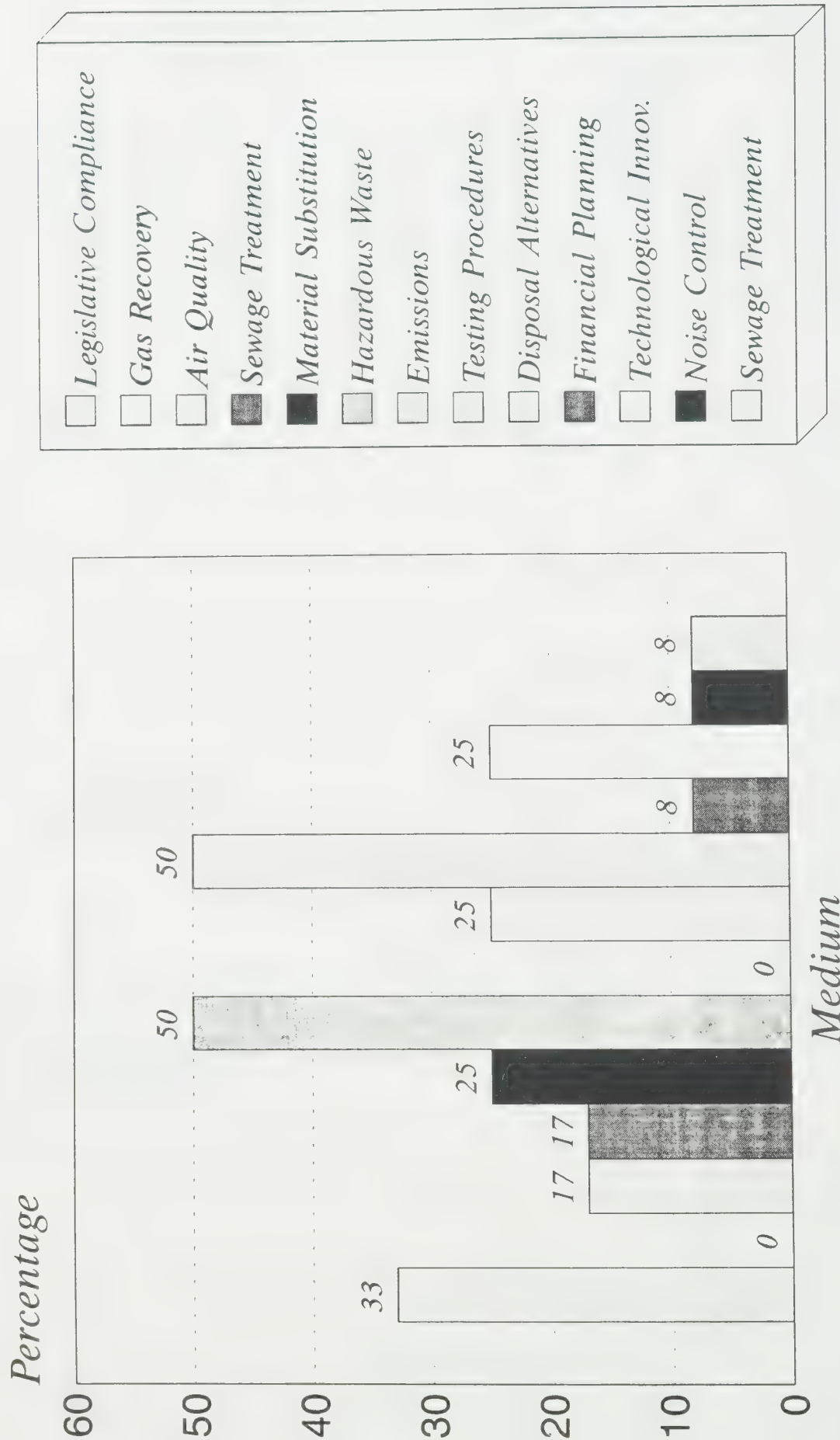
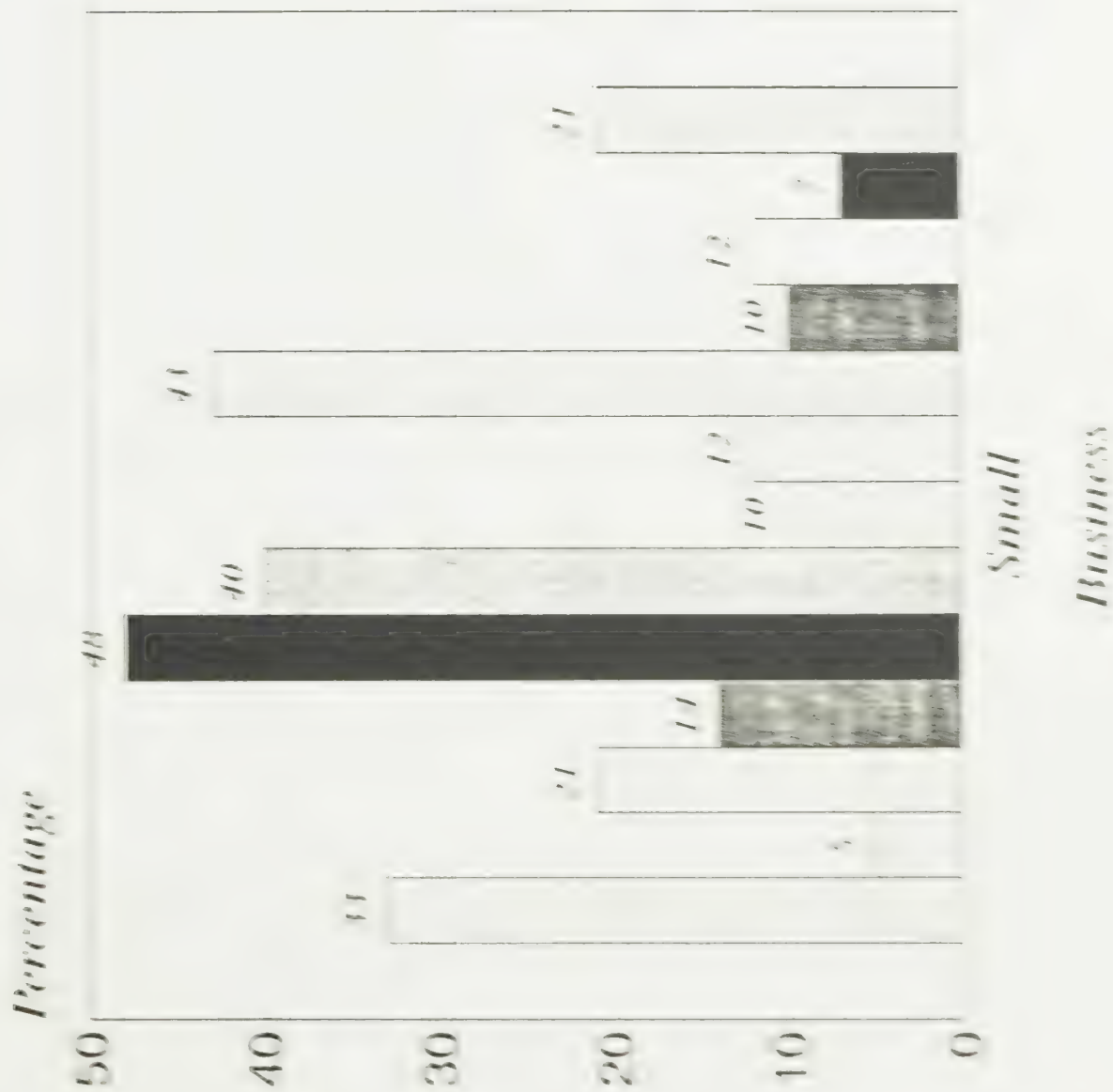


FIGURE 11C 23

What Type Of Environmental Training Do You Feel Would Benefit Your Company The Most?



This question was asked to determine what was preventing business from going forward with training that it needs. Eight options were provided.

Responses from the large (Figure HC 24), medium (Figure HC 25) and small (Figure HC 26) health care organizations were mostly consistent and dealt with bottom line issues. A lack of financial resources (40%) and the inability to give staff time off for training (33%) were viewed as the largest barriers to training. A large number of companies (22%) responded that no barriers existed. A lack of information about programs (28%) and a difficulty in assessing needs (21%) were also seen as training roadblocks. The unavailability of training (18%) a lack of technical knowledge (15%), employee resistance (10%) and lack of management support (3%) were not viewed to be as impeding.

While time and money were cited as large training barriers, as is common in most sectors, the health care industry appears to be training on a regular basis as indicated by the number of respondents that see no barriers. In the area of the environment, even in a sector as information rich as health care, there still appears to be a void regarding information on training and it's availability. This continues to hi-lite the point that when governments, when enacting legislation, should ensure that proper skill building and information infrastructures are in place to aid business in complying.

When involved in training which type of format do you prefer?

This question was asked to determine what training times most suited business needs. Six options were presented.

FIGURE HC 24

What Is The Largest Barrier To Environmental Training For The Staff

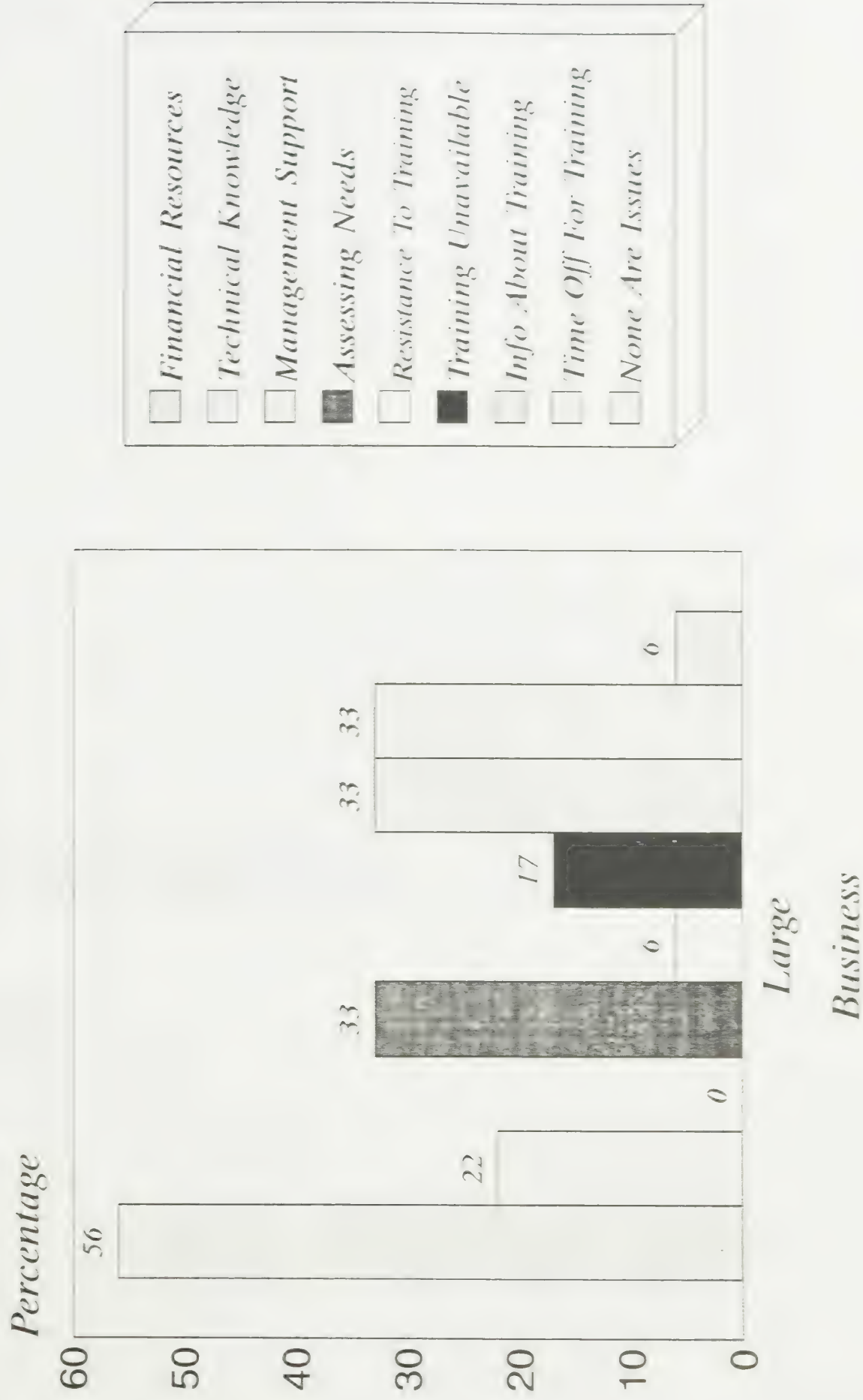


FIGURE HC 25

What Is The Largest Barrier To Environmental Training For The Staff

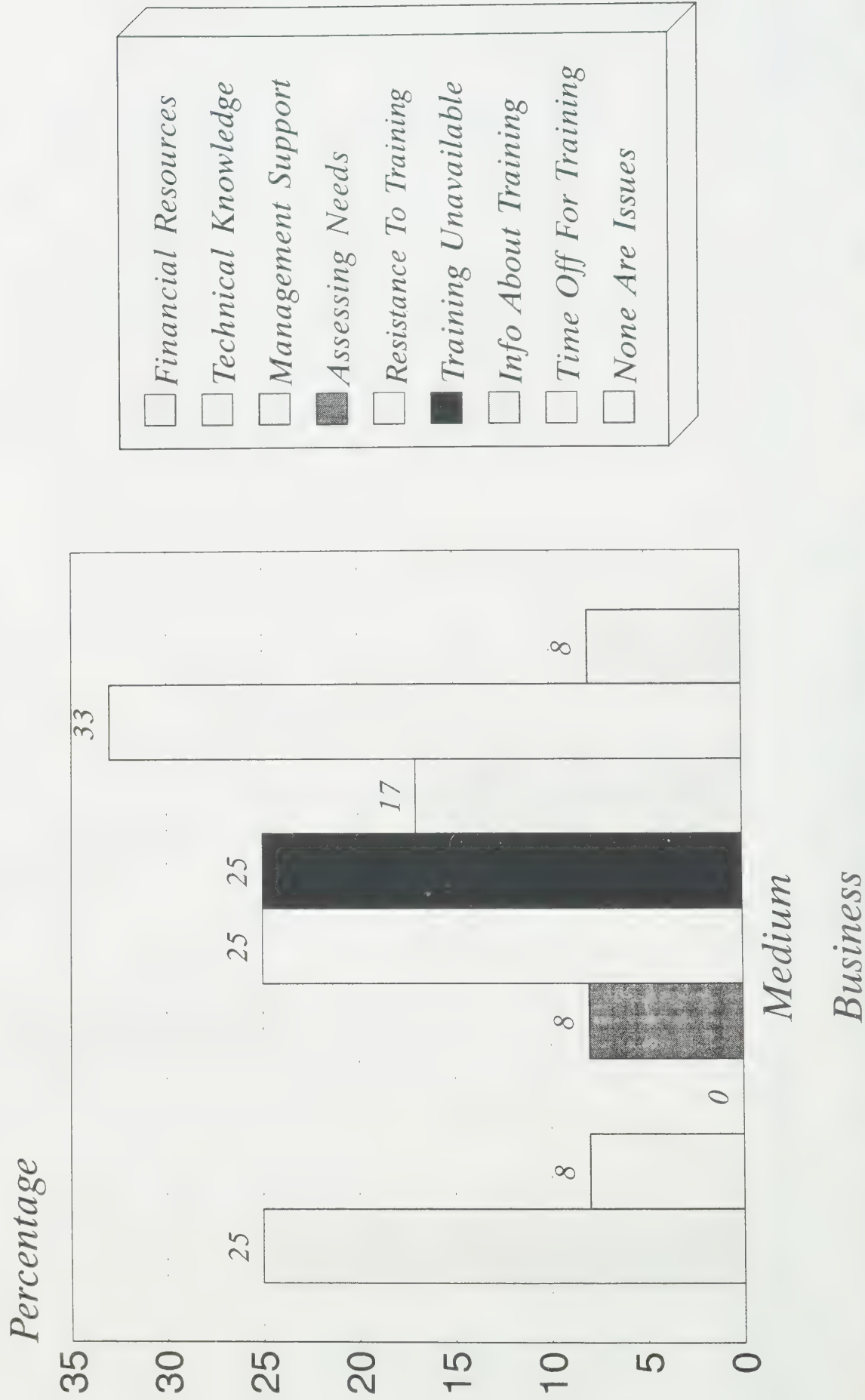
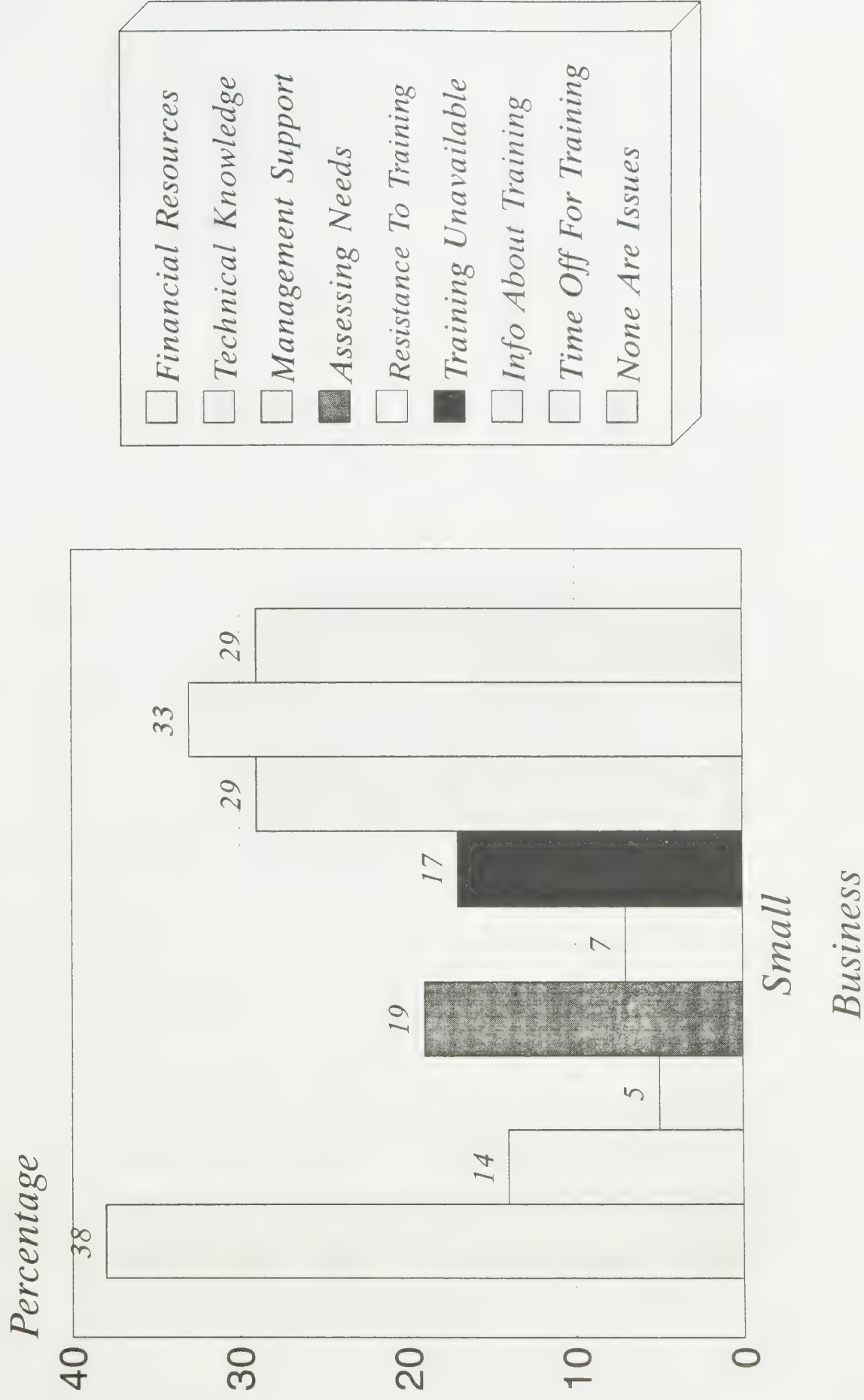


FIGURE HC 26

What Is The Largest Barrier To Environmental Training For The Staff



Seminars/workshops (67%) and on-site training (47%) were clearly seen to be the most preferred form of training by all sizes of business within the health care sector (Figure HC 27). Evening courses were favoured by one of four companies while taking training one-half day per week (15%), intensively for half a week (11%) or full time (6%) were not favoured options.

Do you foresee a need to hire graduates from an environmentally related course?

This question was asked to determine which businesses were breaking out environmental responsibilities as distinct occupations.

Even in an area as highly regulated as health care only three per cent of survey respondents saw a need to hire an environmental specialist. The slight demand that there was existed entirely within large organizations (Figure HC 28).

The lack of need for a distinct environmental specialist makes pronounced the importance for integrating environmental training into many occupations within the health care sector. This is underscored by earlier statistics showing the large number of occupations which have responsibility for environmental issues or perform environmental tasks.

Did you find the information we provided helpful?

Did it influence any of your answers after it was given to you?

These questions were asked after tranSKILLS conducted and presented research into the environmental impact on the industry as determined by environmental experts. We were attempting to determine whether new ways of collecting labour market information

FIGURE HC 27

When Involved In Training Which Type Of Format Do You Prefer

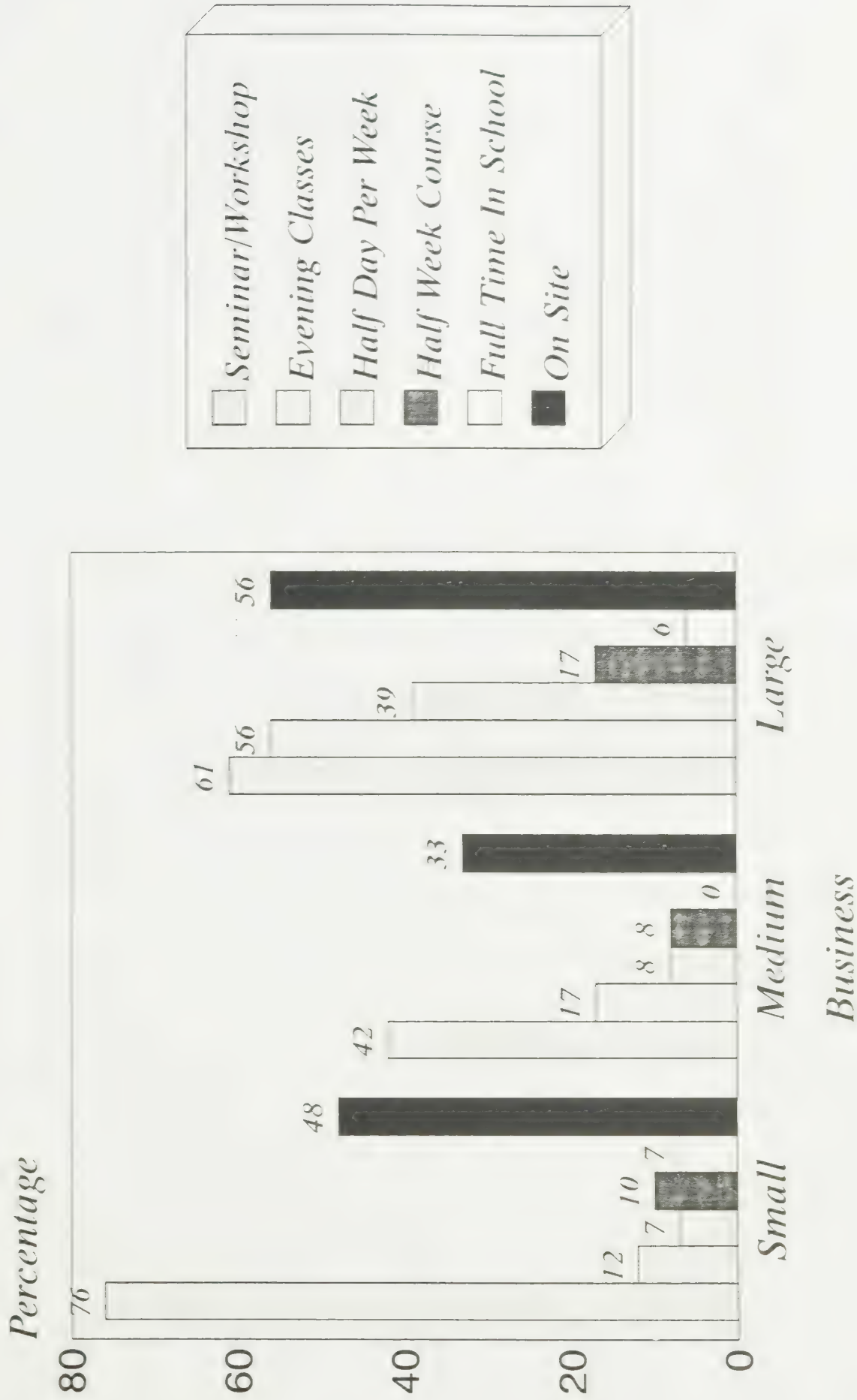
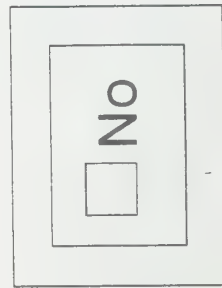
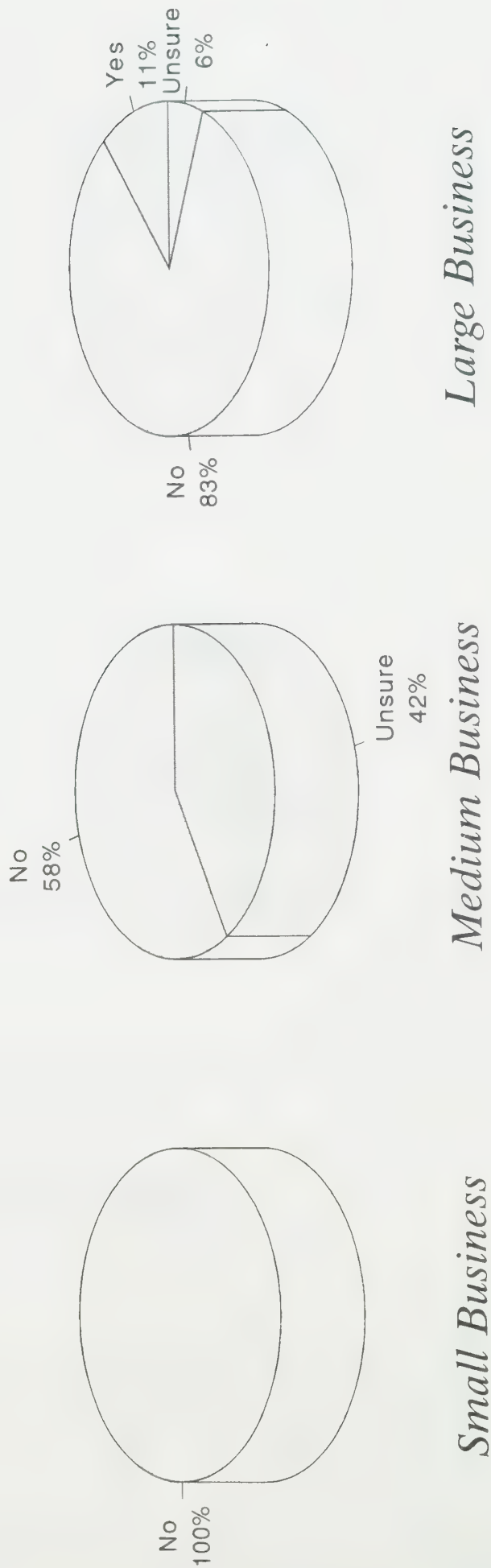


FIGURE HC 28

Do You Foresee A Need To Hire Graduates From An Environmentally Related Course



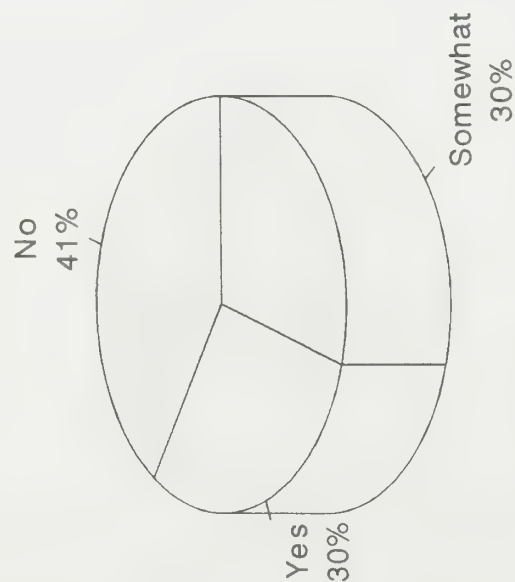
would enhance business without adversely effecting survey results.

Thirty-nine per cent of respondents indicated the information we provided for them was helpful, 24 per cent said it was somewhat helpful and 37 per cent felt it was of no help. (Figure HC 29) Only four per cent of respondents felt it influenced their survey answers, two per cent said it somewhat influenced their answers and 94 per cent indicate it had no influence on their responses. (Figure HC 30)

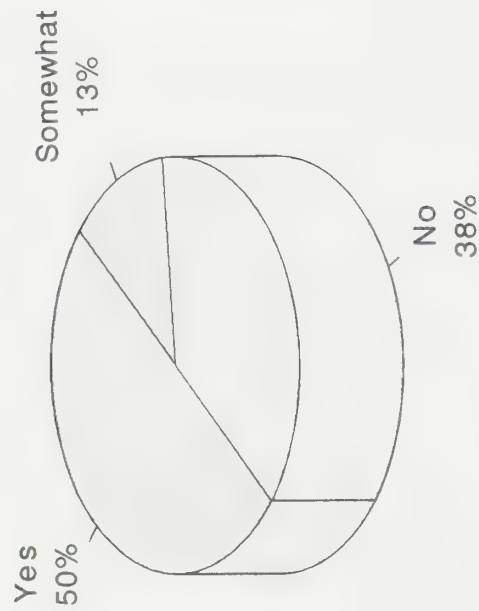
Despite dealing with large amounts of information on a daily basis, 63 per cent of respondents in this sector felt the information provided was either helpful or somewhat helpful. This appears to be an indicator that at least part of the information they received was new or had value. As stated earlier, this industry, much more so than the trades or other types of manually skilled industries, is able to effectively utilize information to respond to the pressures of change. What is required is an effective way to get information out to them. Therefore, using a personal survey as a process of information exchange, where both parties receive something of value, is not only an effective means of communication and data collection, but an aid in business operations. The concern that results may be skewed when providing information while conducting a survey is not borne out in that only four per cent of respondents felt the information influenced their answers.

FIGURE HC 29

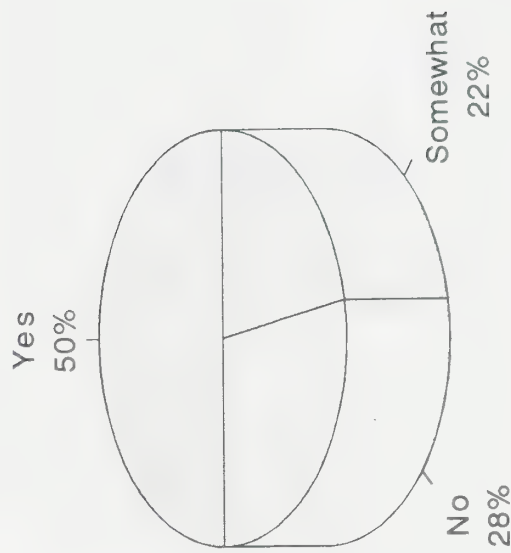
Was The Information Sheet Provided Helpful In Any Way



Small Business



Medium Business

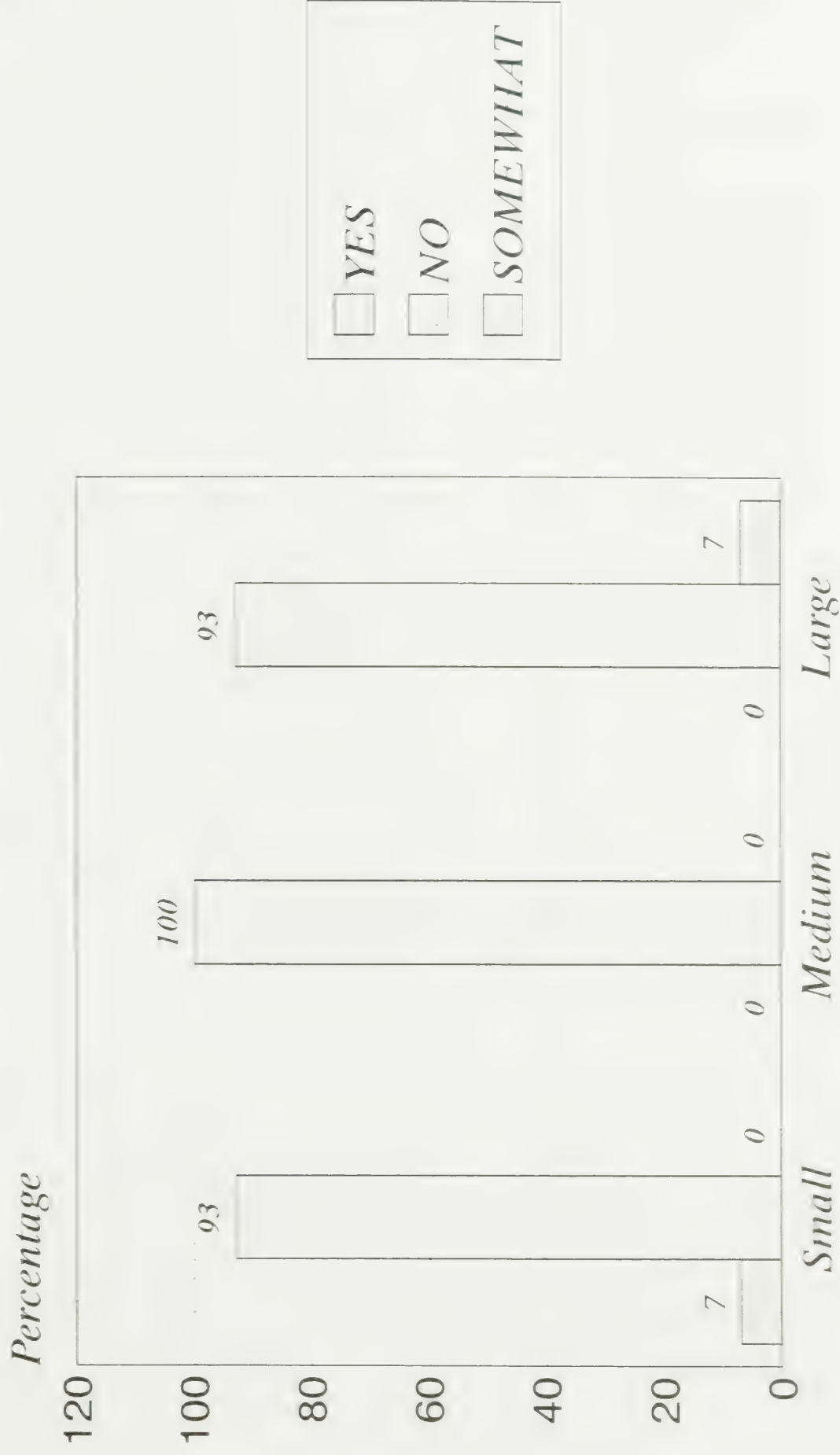


Large Business

☐ No ☐ Yes ☐ Somewhat

FIGURE HC 30

Did It Influence Any Of Your Answers After It Was Given To You



Construction

tranSKILLS interviewed 67 owners/managers of local construction companies representing 21 per cent of the total survey population of 317 interviews. The predominant number of these surveys, 52 of 67 or 78 per cent, were with small companies, primarily independent contractors, that employee between 1-20 workers. Thirteen surveys, or 19 per cent of the survey population, were conducted with medium sized companies employing 21-99 workers. The remaining two surveys were conducted with large companies employing over 100 workers. All surveys were conducted through personal interviews.

Job Title: Person on staff who perform environmental tasks.

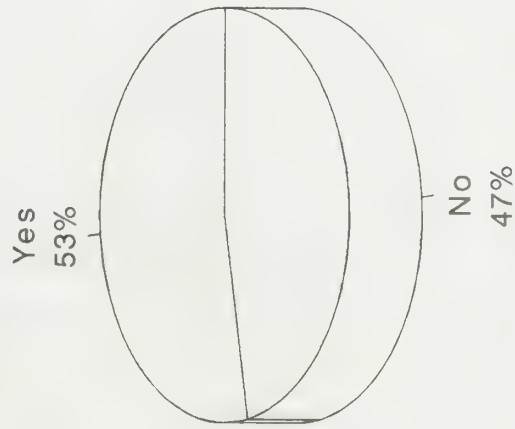
Does your company have someone on staff in charge of environmental issues?

These questions were asked to determine if companies were assigning specific environmental duties to workers and whether someone was ultimately responsible for the environment within a workplace. We hoped to determine if there was one occupation to which the responsibility of environmentally related tasks fell.

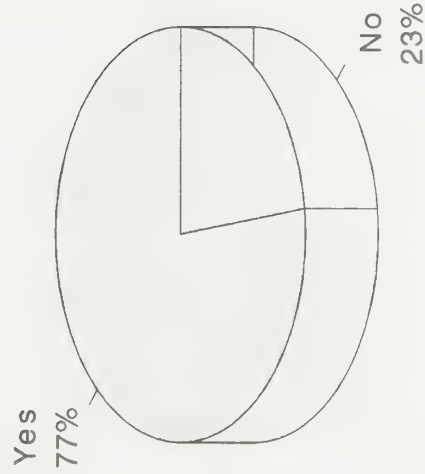
In the construction sector environmental tasks, such as the proper disposal of building materials, were performed by a variety of occupations ranging from labourer to tradesman to owner. While all of the large companies and 77 per cent of the medium sized companies surveyed had someone on staff in charge of environmental issues, only 53 per cent of the small companies indicated there was someone assigned to this function. (Figure Const 1)

FIGURE CONST 1

Does Your Company Have Someone On Staff Who Is In Charge Of Environmental Issues



Small Business



Medium Business



Large Business

☐ Yes ☐ No

Like most other sectors, the construction industry sees a variety of people performing environmental tasks according to their occupation. This appears to indicate a need for integrating environmental adaptation and compliance training into the construction trades, particularly when just under half of the small companies surveyed had no one on staff in charge of environmental issues. Incorporating environmental practices into individual trades training would complement the independent way much of the industry operates. It would also help ensure that small contractors and sub-contractors have the awareness to approach a job in an environmentally sound fashion.

How many people overall have been hired in the last year?

How many people do you need to hire today?

Have you had any difficulty in hiring?

Do you anticipate any new hires over the next 12 months due to growth?

Do you anticipate any new hires over the next 12 months due to staff replacement?

These questions, which appeared in different parts of the survey, have been placed together as they reflect the past and future growth of the sector surveyed. They also assist in anticipating any future needs and potential difficulties in meeting those needs.

The construction companies surveyed reported a total loss of 119 jobs over the past year. Small companies were forced to let go 84 people and medium companies released 52 people. The surveyed large companies hired a total of 19 people. The recession, which dried up construction contracts, was seen as the reason. However, while the large companies indicate they are not looking for any new hires immediately, small companies indicated a need to hire seven people while five people were needed by medium sized

companies. Only one company experienced any hiring difficulty in a specialized trade area.

For the coming year, small business appears to be driving growth in the construction industry. While no large companies anticipate a need to hire and only 15 per cent of the medium sized companies see a need, 44 per cent of the small companies are anticipating new jobs due to growth. (Figure Const 2). It appears very few jobs will become open due to the replacement of staff (Figure Const 3) as, overall, 91 per cent of the businesses asked indicate they are planning on no new hires due to staff replacement.

How many people on your staff require skills upgrading?

What are the skills your staff need in order to meet the current and future needs of your industry?

These questions were asked to determine the extent and type of training required?

In total, one-third of the companies surveyed indicated that no one on their staff needed skills upgrading, one-third said some did, 27 per cent said everyone did and seven per cent were uncertain. However, not one of the medium or large companies indicated no one needed upgrading, whereas 42 per cent of the small companies felt the skills of their workforce did not need improving. (Figure Const 4). This can be attributed to at least two factors. Due to the high number of job losses by small construction companies (as indicated earlier) it is likely the highest skilled and most experienced personnel were kept on. Also, the nature of the construction industry does not allow for "on-the-job" training by smaller firms. In order to be competitive, they must hire fully competent people who

FIGURE CONST 2

Do You Anticipate Any New Hires Over The Next 12 Months Due To Growth

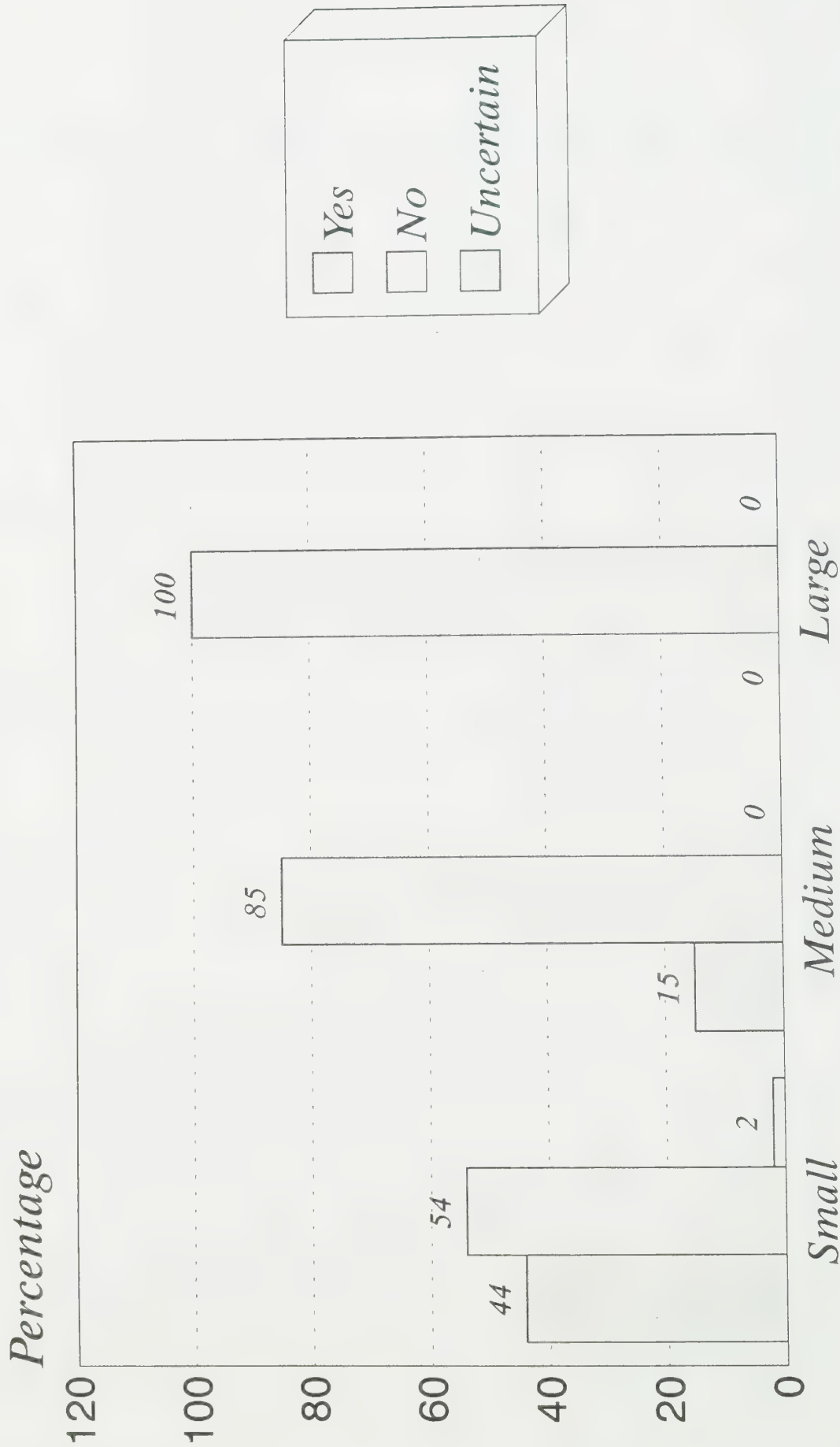
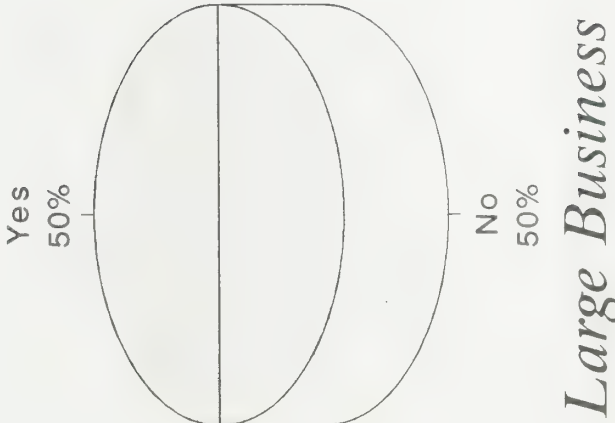
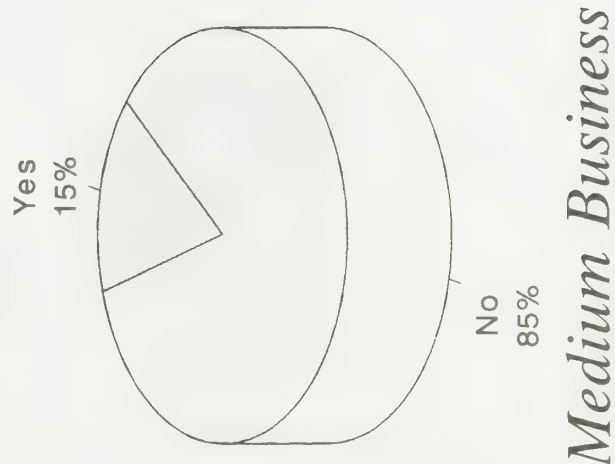
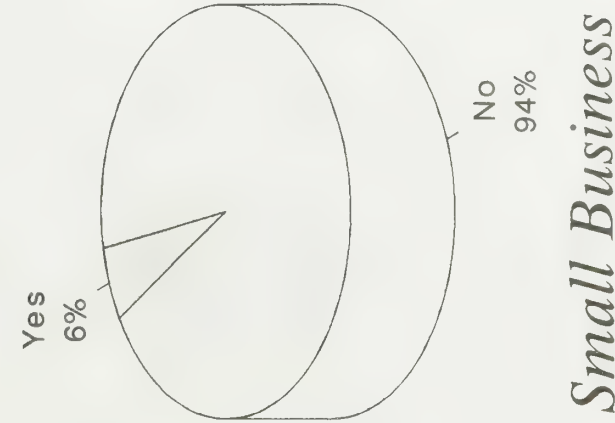


FIGURE CONST 3

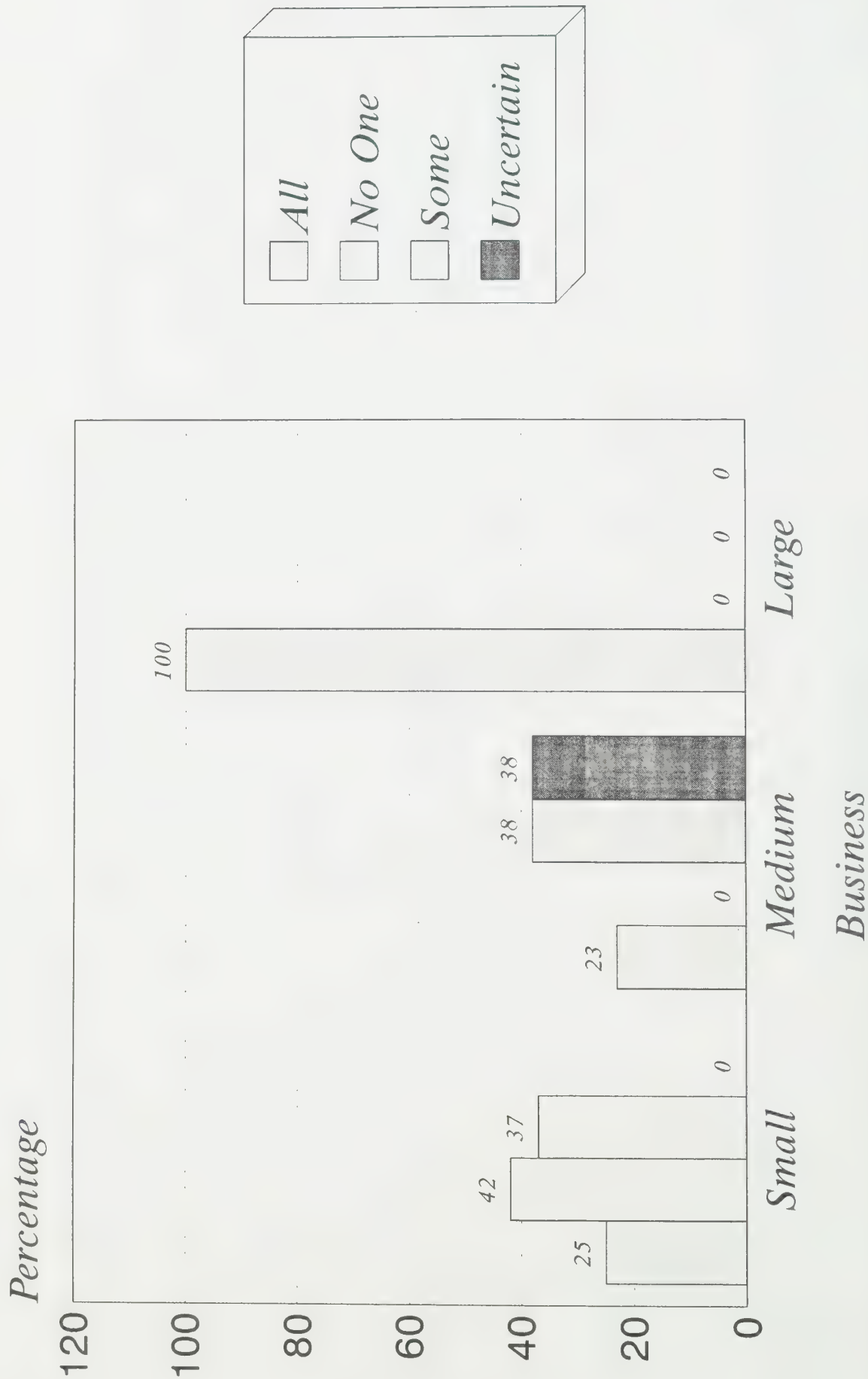
Do You Anticipate Any New Hires Over The Next 12 Months Due To Staff Replacement



☐ Yes ☐ No

FIGURE CONST 4

How Many People Of Your Staff Require Skills Upgrading



can perform their jobs from day one.

This situation does not speak well for the existing apprenticeship system as most companies cannot afford to retain their apprentices during hard times. This reality also sees many of the skills in construction eroding as the older portion of the workforce creates the potential for a skills shortage in future years. If this is to be avoided it is important to account for not only the cyclical and seasonal nature of the construction industry, but the cyclical nature of the economy when approaching training in this sector. The apprenticeship system in particular needs to be reviewed to address this eventually. The companies that did indicate training was needed cited computer training as the most common area. Overall 21 per cent of the surveyed firms felt computer skills were essential while no other skill was mentioned more than once.

Do you plan on introducing new equipment next year?

What kinds of equipment?

What impact will this equipment have on the skill requirements of the occupations affected?

Do you plan on introducing new processing methods?

Can you describe the impact these new processing methods will have on the skill requirements of those affected?

To what extent do you expect technology to impact on your business in the next 2 or 3 years?

These questions were asked to determine the extent of change in each sector and the awareness of the effects that change will have.

There are no plans to introduce new equipment next year for 66 per cent of the surveyed companies (Figure Const 5), while 78 per cent indicate they will not be introducing any new processing methods (Figure Const 6). Further, 73 per cent of all companies asked say technology will have either no impact or only a minimal to moderate impact on their business in the next two to three years (Figure Const 7). Only 27 per cent of companies view a substantial to very substantial impact. These responses provoke a number of questions. Are there few technological advances in the offing in the construction industry? If there are, how can this be communicated? Does this sector (small business in particular) feel confident that the existing tools and materials of the trade will undergo relatively few changes? Is there a lack of know-how within the industry regarding the means by which to find out about technological changes? Is there a lack of interest?

Is your business currently regulated by an environmental government department?

Do any of your staff require environmental certification to perform their jobs at present?

Are any of your staff able to identify critical functions related to the environment?

Do you currently train your staff on environmental issues?

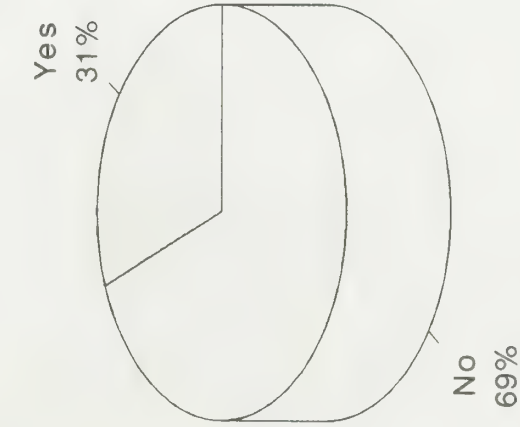
Have any of your employees attended seminars or courses related to the environment?

These questions were asked to determine the degree of business awareness and response regarding the environment.

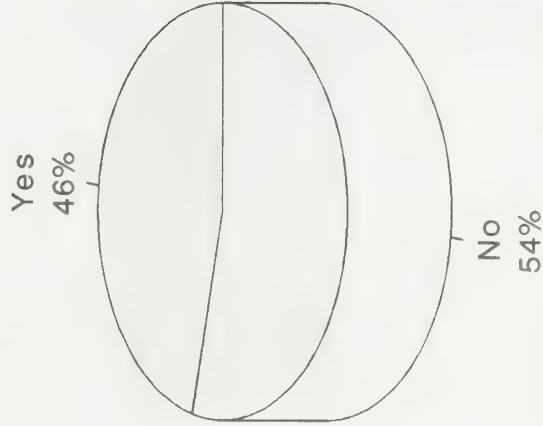
While all construction firms are regulated environmentally only 49 per cent of the firms surveyed were aware this was the case. All of those companies who indicated they

FIGURE CONST 5

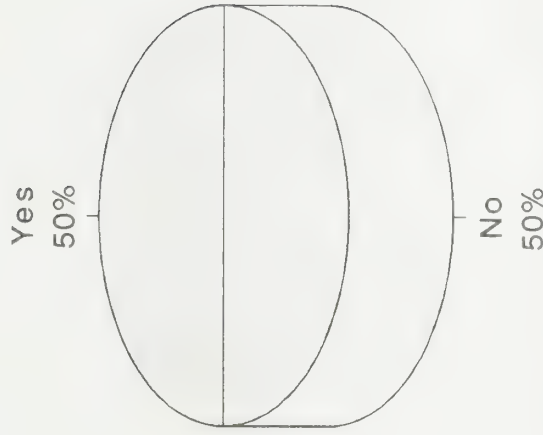
Do You Plan On Introducing New Equipment Next Year



Small Business



Medium Business

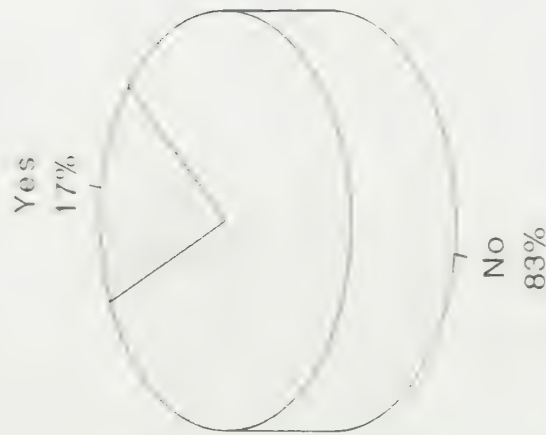


Large Business

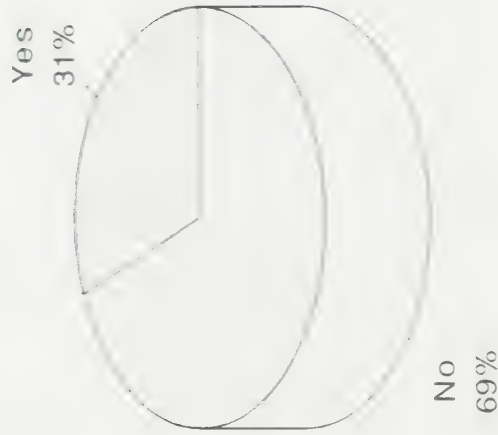
☐ Yes ☐ No

FIGURE CONST 6

Do You Plan On Introducing New Processing Methods



Small Business



Medium Business

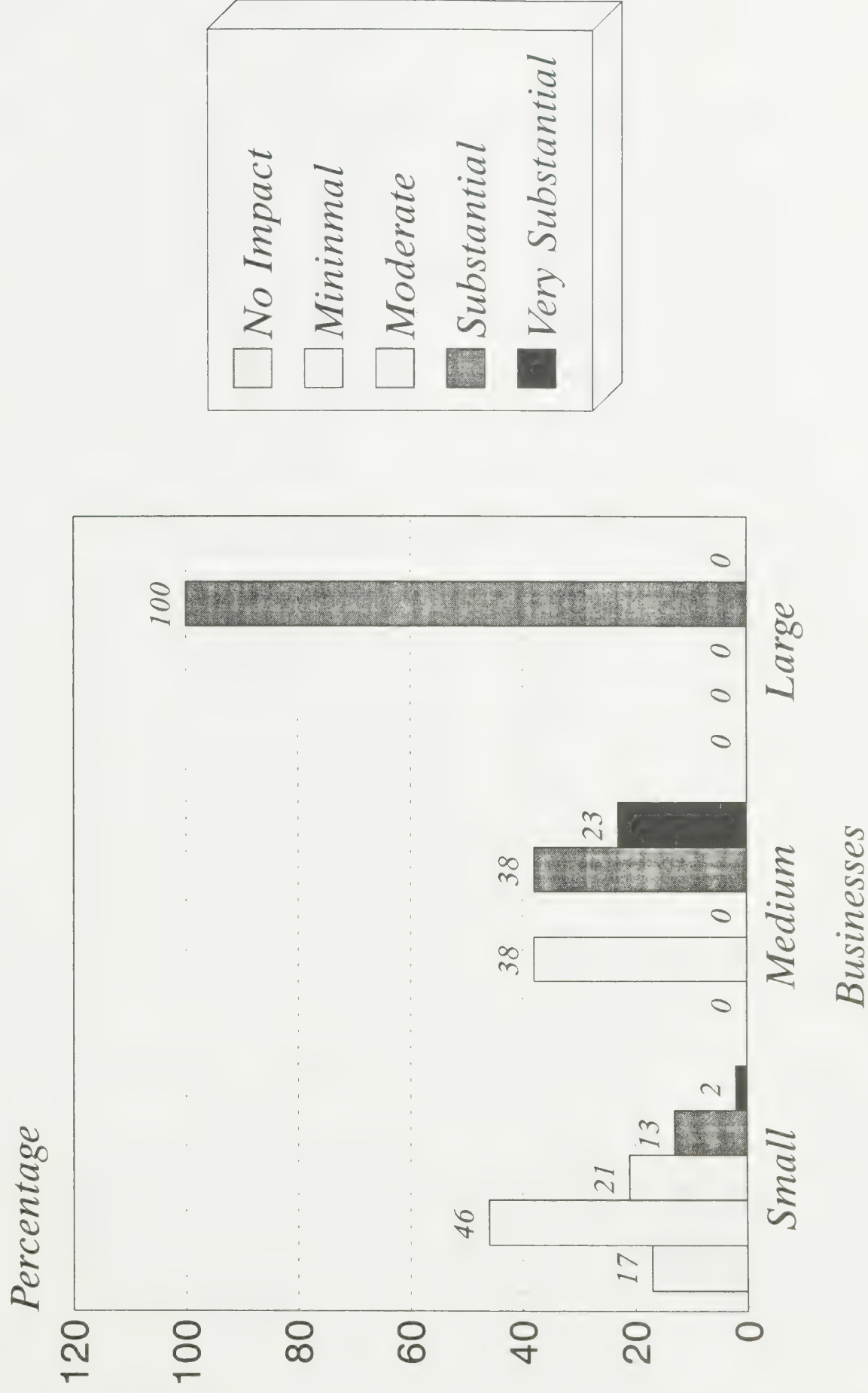


Large Business

☐ Yes ☐ No

FIGURE CONST 7

Technological Impact On Businesses Over The Next 2 To 3 Years



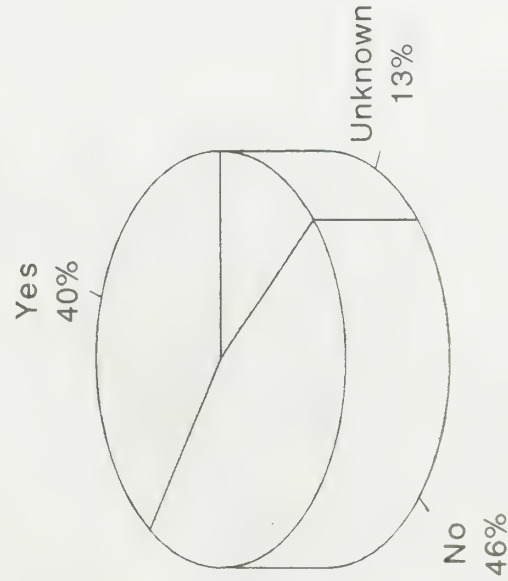
were not regulated were small businesses (Figure Const 8). All large businesses and 77 per cent of medium sized businesses indicated they were regulated. Twenty-three per cent of medium sized operations and 13 per cent of small companies were unsure. Overall, 52 per cent of the companies surveyed indicated they had staff who required environmental certification to do their job (Figure Const 9), while 61 per cent had staff who were able to identify critical functions related to the environment (Figure Const 10). Again, it was only the small companies (31%) who did not have a staff person able to identify critical functions related to the environment. Training staff on environmental issues took place in all of the large companies, 77 per cent of the medium companies and 56 per cent of the small companies (Figure Const 11), but only 35 per cent of the small companies and 54 per cent of the medium companies had ever had a staff person attend a course related to the environment (Figure Const 12). These results indicate a tremendous information gap, especially in the case of small business. The large number of small companies unaware that they are regulated and unsure of their responsibilities regarding critical environmental functions (like the proper disposal of construction materials) poses a series of concerns. Are they not getting information regarding these issues? Are they unable to understand what it means? Are they ignoring it? If so, why? Is there a better way to inform them? Is there a proactive way to offer them the incentive to be environmentally sound that does not impact directly on their bottom line?

Which of the following areas are of concern in the operation of your company?

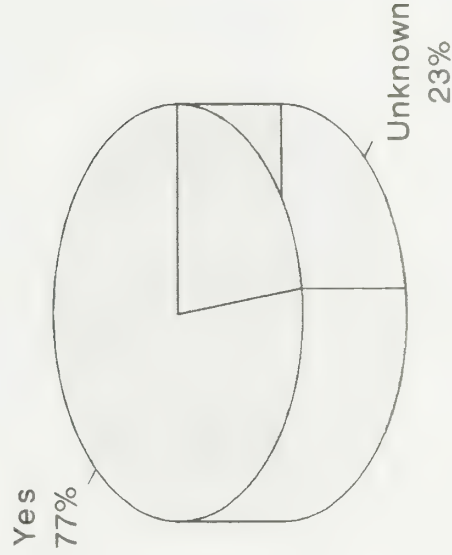
This question provided the company with eight choices and was asked to determine specific areas of environmental concern.

FIGURE CONST 8

Is Your Business Currently Regulated By An Environmental Government Department



Small Business



Medium Business

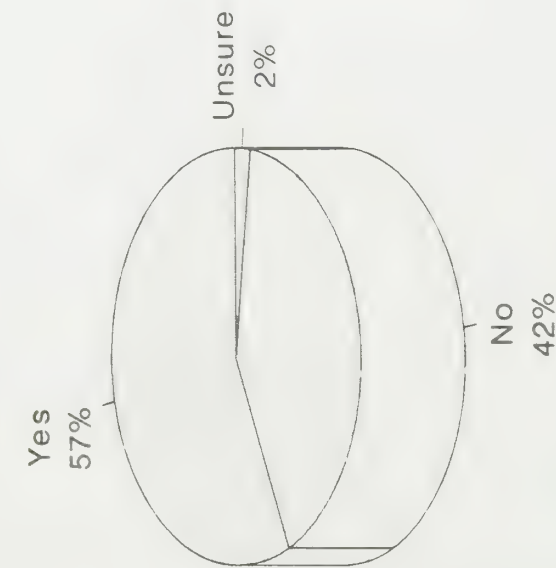


Large Business

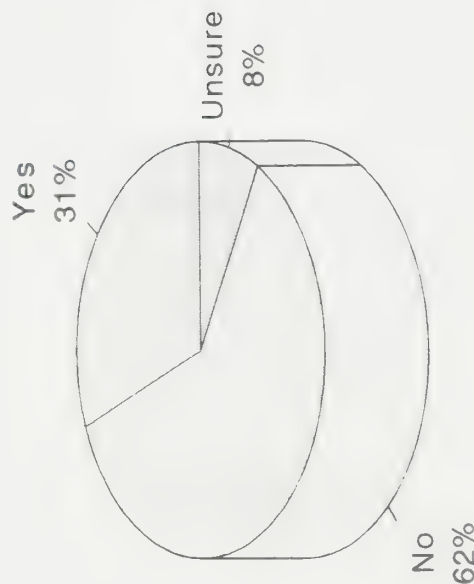
☐ Yes ☐ No ☐ Unknown

FIGURE CONST 9

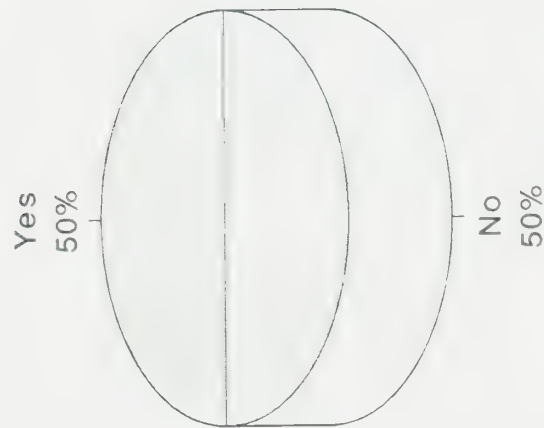
Do Any Of Your Staff Require Environmental Certification To Perform Their Jobs



Small Business



Medium Business

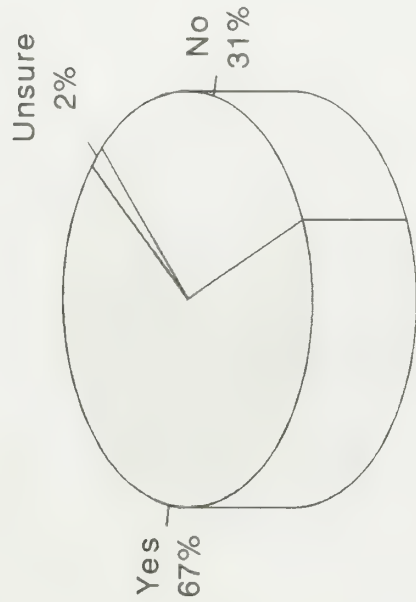


Large Business

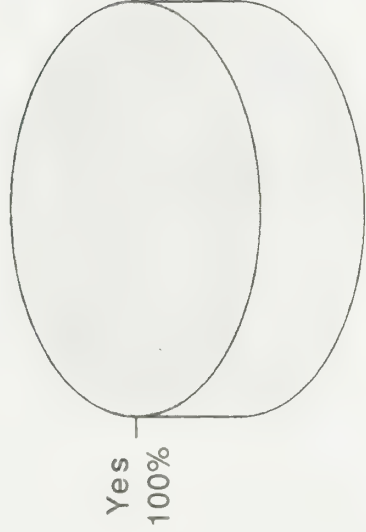
☐ Yes ☐ No ☐ Unsure

FIGURE CONST 10

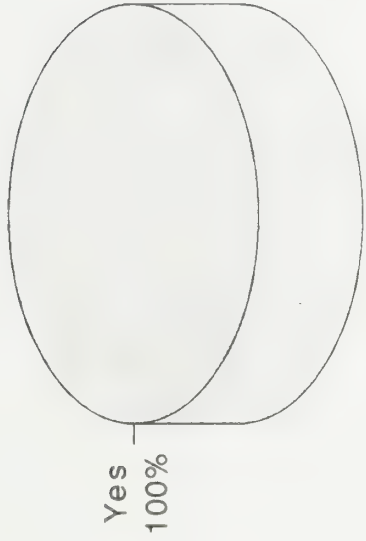
Are Any Of Your Staff Able To Identify Critical Functions Related To The Environment



Small Business



Medium Business

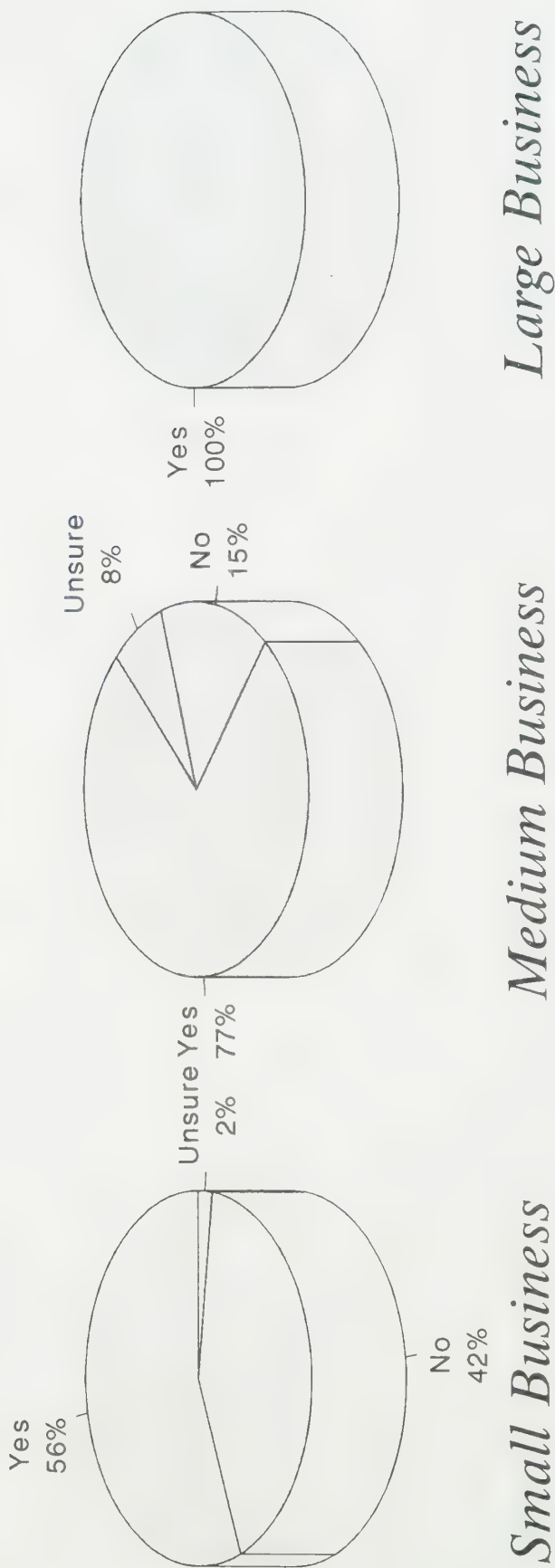


Large Business

☐ Yes ☐ No ☐ Unsure

FIGURE CONST 11

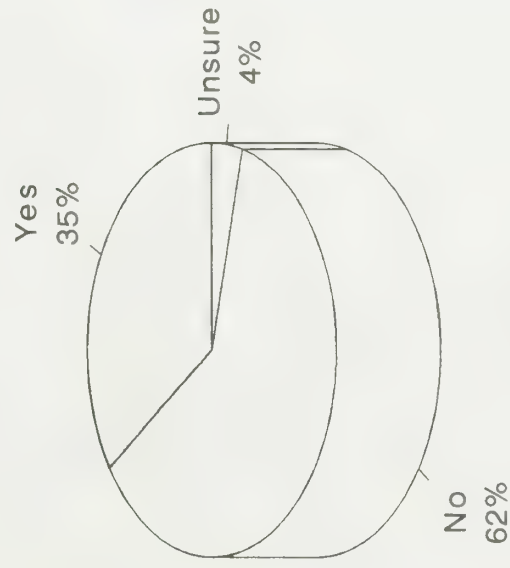
Do You Currently Train Your Staff On Environmental Issues



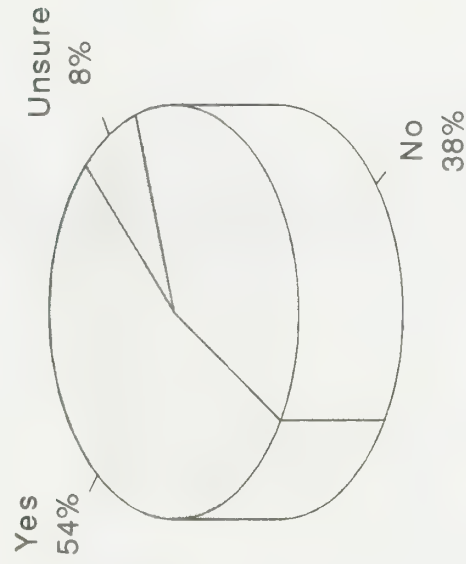
☐ Yes ☐ No ☐ Unsure

FIGURE CONST 12

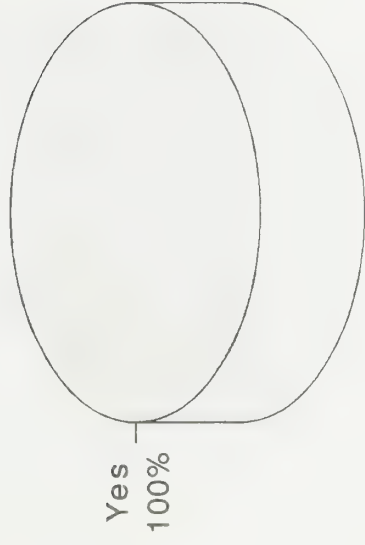
Employees Who Have Attended Seminars Or Courses Related To The Environment



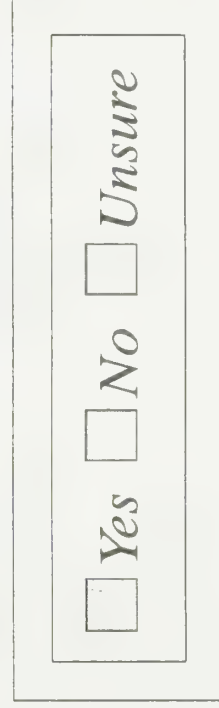
Small Business



Medium Business



Large Business



Solid waste proved to be an overwhelming concern of the construction industry, cited by 95 per cent of respondents. Recycling (72%), legislative compliance (52%), liquid waste (37%), air quality (36%), depletion of natural resources (34%) and toxic waste (24%) also proved to be serious concerns (Figure Const 13), while water quality (12%) was seen as a lesser concern. Each area where a high degree of concern was expressed can be traced directly back to day to day activities within the industry. The issues surrounding solid waste in particular i.e. proper disposal and tipping fees are seen as critical as they directly effect the viability of the operation.

Does your business participate now or have future plans for:

Reduction Re Use Recycling Material Substitution Initiatives

This question was asked to determine the involvement of business in the most common of environmental practices.

Recycling (73%), re-use (66%) and reduction (63%) are currently being practiced by, or are in the plans, for the majority of construction companies. Material substitution initiatives (40%) have less of a business participation. All of the large companies indicate they are involved in each area, while a diminishing drop-off to medium and small sized companies occurs (Figure Const 14). The comparatively low numbers for participation and/or plans within the small business area for recycling 67%, re-use 62%, and reduction 58% is reflective of what appears to be an overall difficulty in discovering or getting involved in environmental practices within their industry. This indicates a need to demonstrate to business a viable means of reduction, re-use and recycling so that it does not negatively impact on the long term profitability of the company. It also shows

FIGURE CONST 13

The Following Areas of The Environment Are Of Concern In The Operation Of A Company

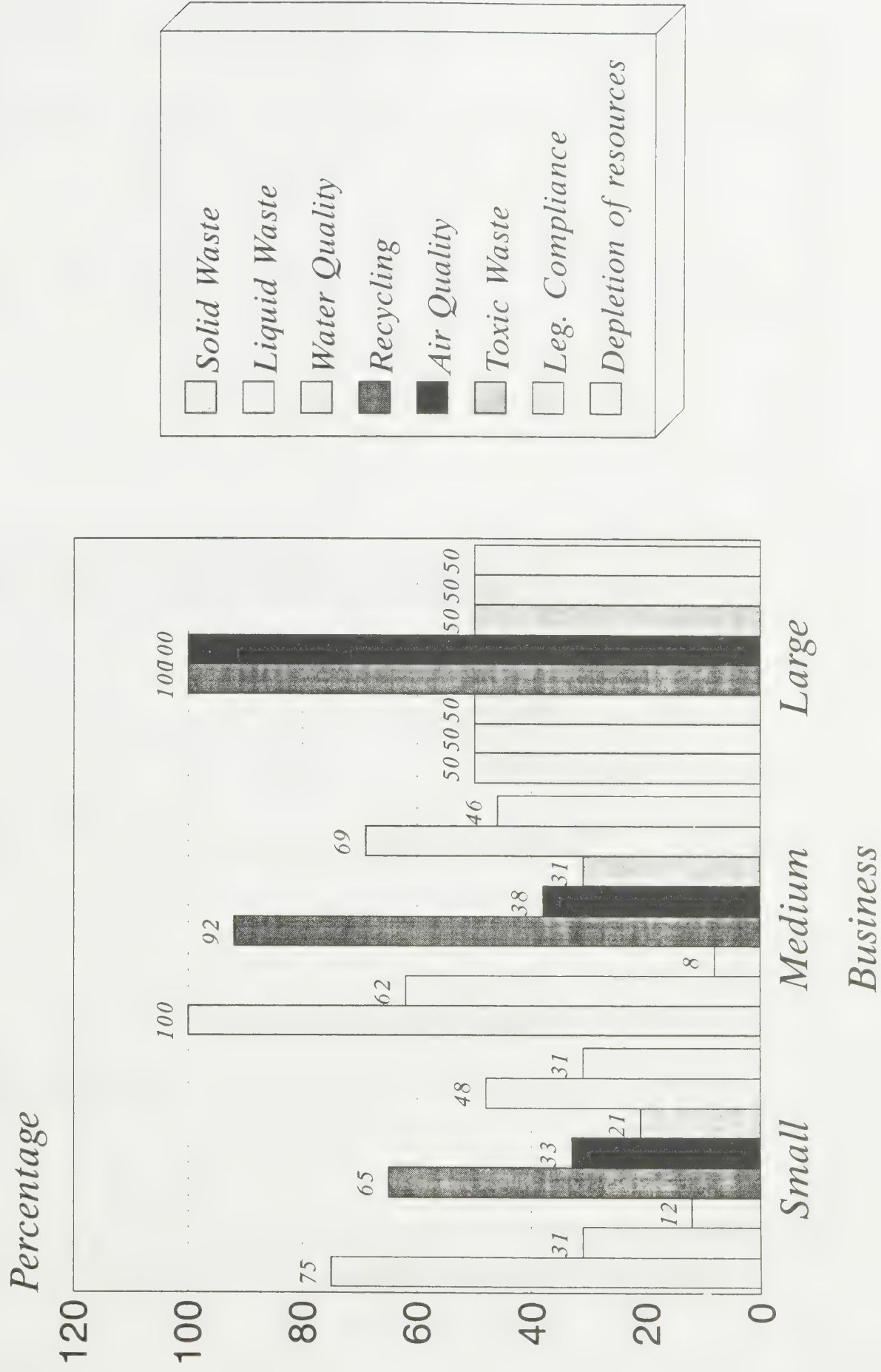
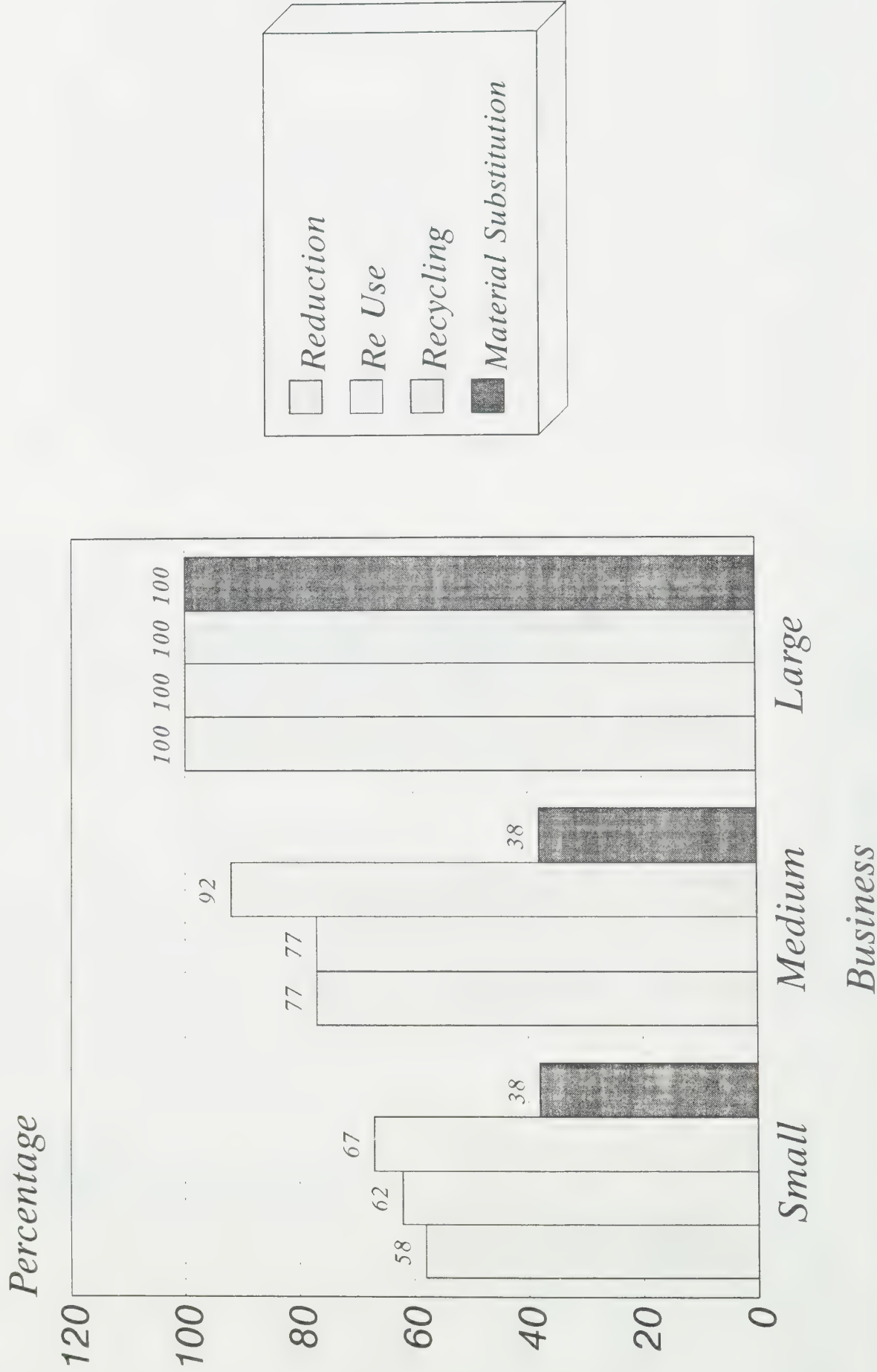


FIGURE CONST 14

Current Or Future Business Participation In Reduction, Re-Use, Recycling & Material Substitution



a need for greater awareness of these initiatives as they are instrumental to sustainable development.

Does your company require suppliers to comply with environmental practices?

This question was asked to provide further indications as to whether environmental concerns are becoming a regular part of business practice.

While all large companies and 85 per cent of the medium companies surveyed required their suppliers to comply with environmental practices, only 54 per cent of small companies had such a requirement (Figure Const 15).

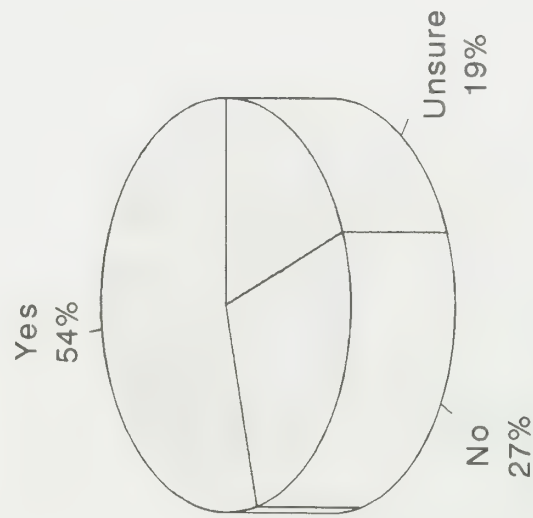
Which of the following aspects of environmental legislation are most difficult for your business?

This question was asked to identify areas of compliance and compliance related issues with which business was experiencing the most trouble.

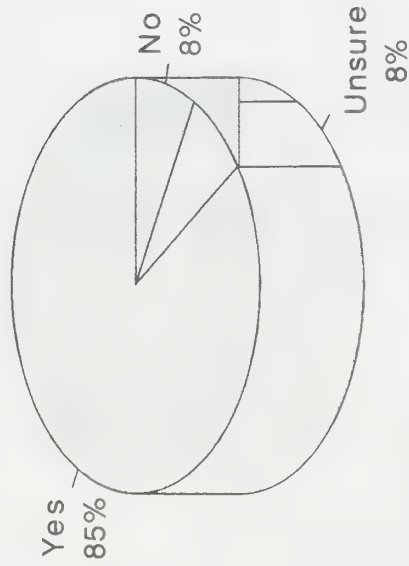
Overall, issues of time and money were the areas of environmental legislation that companies found most difficult. Increased fees (64%), cost of compliance (54%), taxes (54%), keeping abreast of new laws (49%) and increased paperwork (36%). Ten per cent of the survey respondents were concerned with inspections while seven per cent had no concerns. Small (Figure Const 16) and medium (Figure Const 17) were very close in their shared concerns, although medium sized companies had more difficulty with increased paperwork. Fifty per cent of large companies expressed difficulty in all areas with the exception of increased paperwork (Figure Const 18).

FIGURE CONST 15

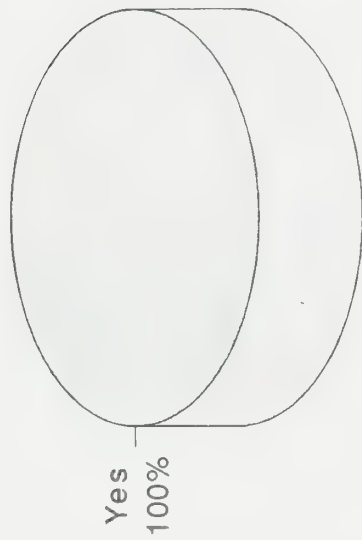
Does Your Company Require Suppliers To Comply with Environmental Practices



Small Business



Medium Business



Large Business

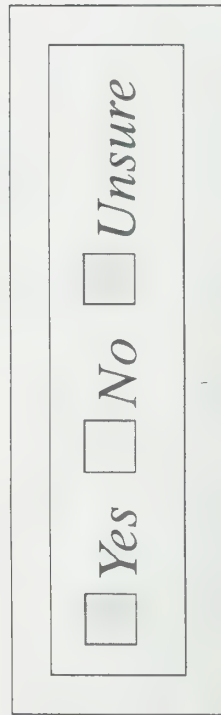


FIGURE CONST 16

Which Of The Following Aspects Of Environmental Legislation That Are Most Difficult In Your Business

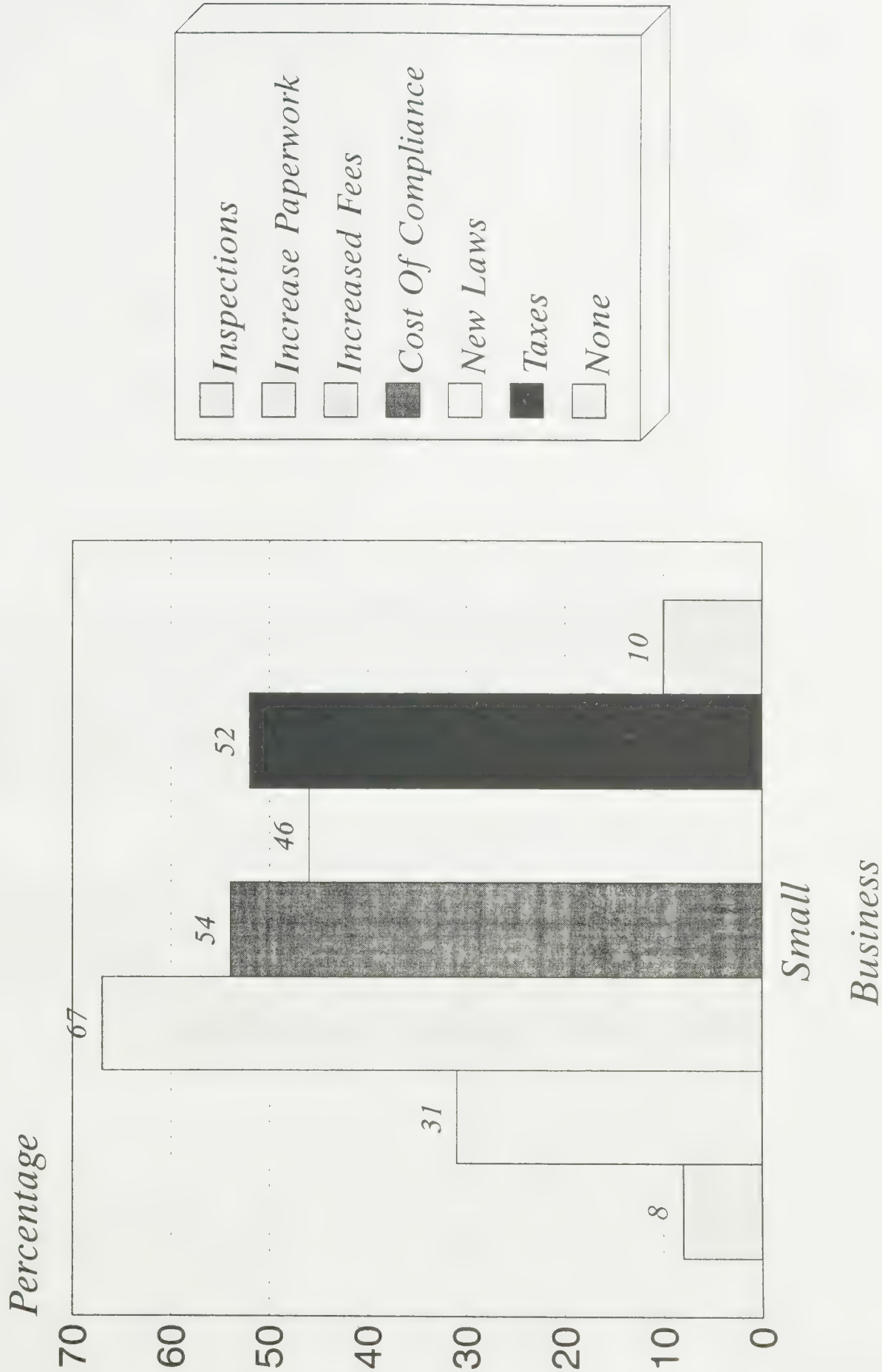


FIGURE CONST 17

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business

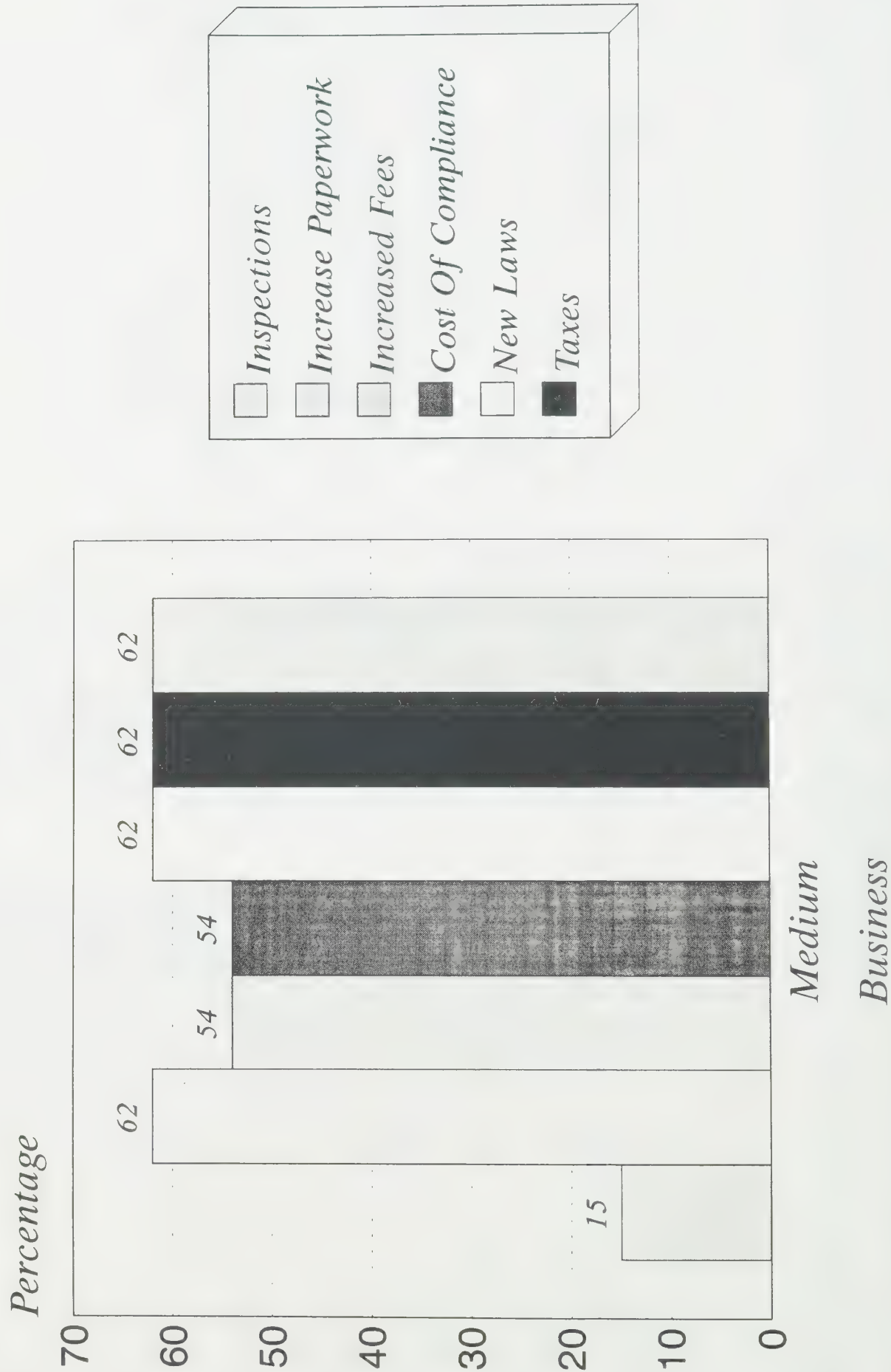
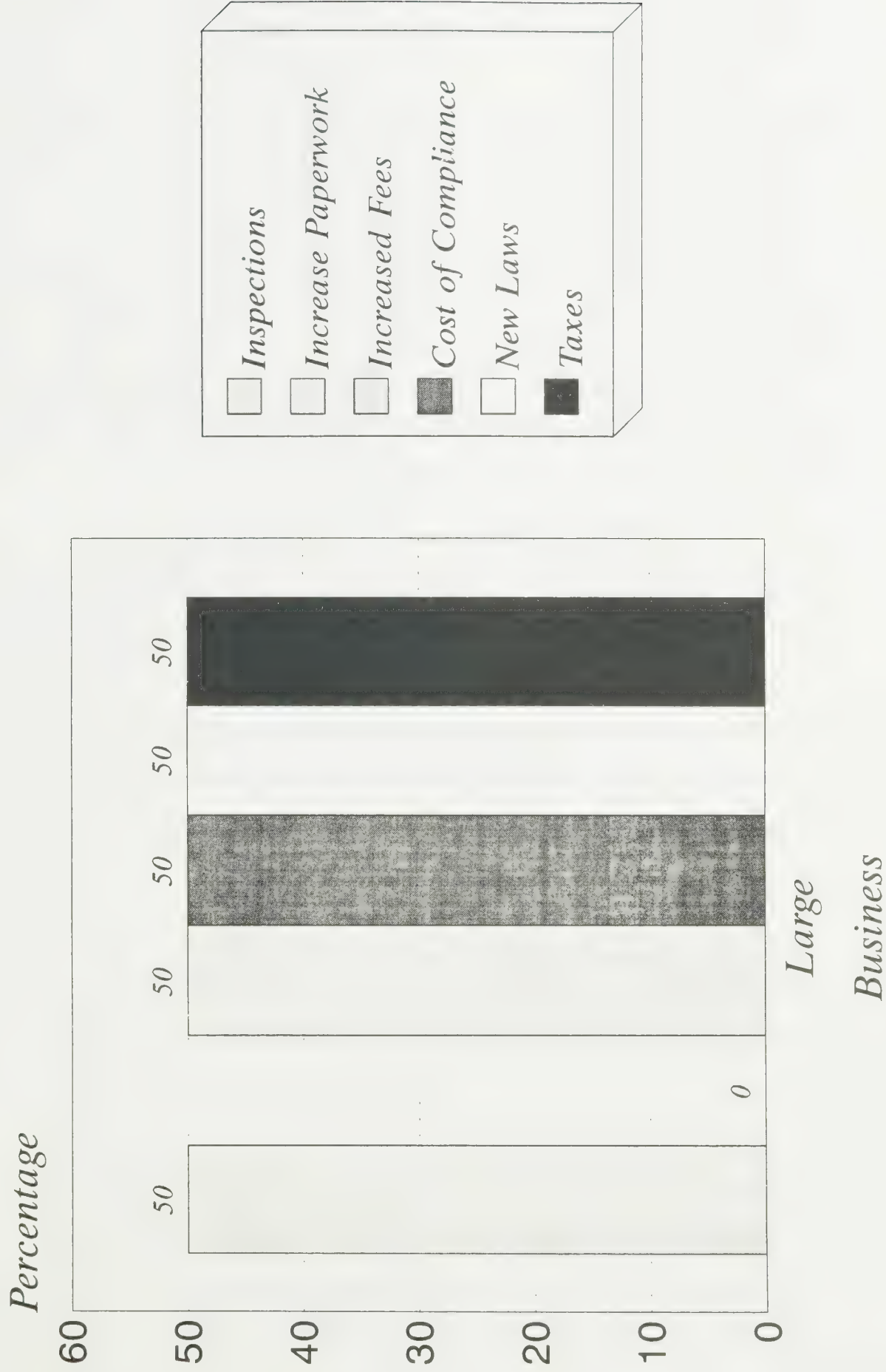


FIGURE CONST 19

Which Of Following Aspects Of Environmental Legislation Are Most Difficult For Your Business



In the construction industry environmental compliance is viewed as a costly and time consuming activity. Indeed, some small companies felt they were being legislated out of business as their ability to successfully bid a job was being hampered if they followed all of the environmental guidelines. Many felt their businesses were threatened by the increasing amount of environmental legislation. It is understandable (and borne out in A.H. Maslow's hierarchy of needs) that when someone feels their livelihood threatened they are concerned only with the challenge that presents. While these sentiments may be a by-product of a sector extremely hard hit by the recession, they have to be taken into account when addressing solutions. In order to enact change a less punitive and more proactive approach needs to be taken by regulators. New means must be developed to counter the demands placed on business and to assist them in adapting environmentally. Governments need to begin recognizing that many construction businesses are started because of someone's ability to work with their hands. Information needs to come to them in their language with a minimum of paperwork and where change will have a direct impact on business, government must be prepared to assist companies in gathering the skills that will be needed to react.

What type of environmental training do you feel would benefit your company most?

This question was asked to determine the immediate and specific skill requirements of business in areas relating to the environment. Twelve choices were given.

For large (Figure Const 20), medium (Figure Const 21) and small business (Figure Const 22), training in disposal alternatives (67%) was ranked as having the greatest benefit. Training in material substitution (51%), financial planning (49%), legislative compliance

FIGURE CONST 20
Environmental Training That Would Benefit A Company The Most

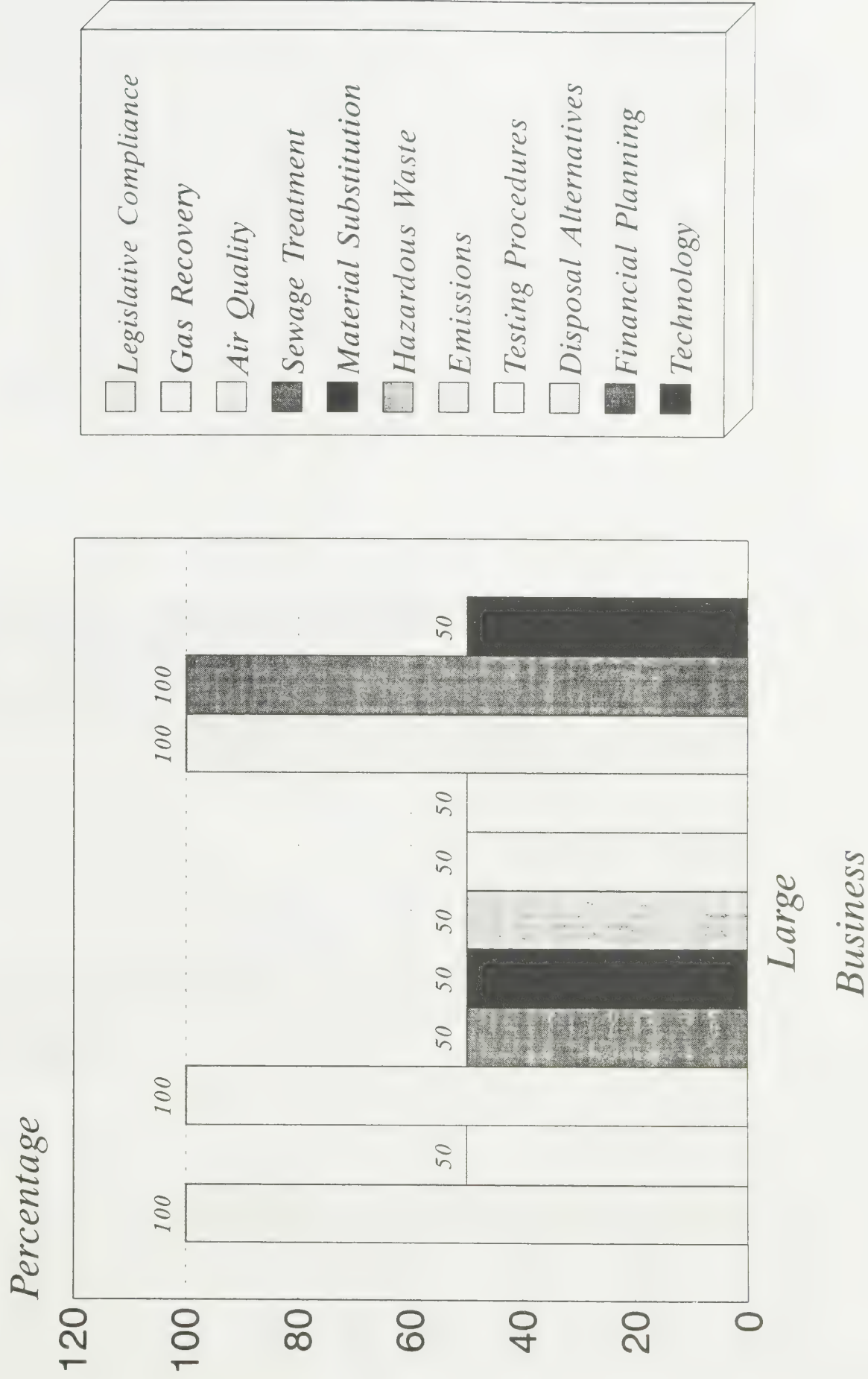


FIGURE CONST 21

Environmental Training That Would Benefit A Company The Most

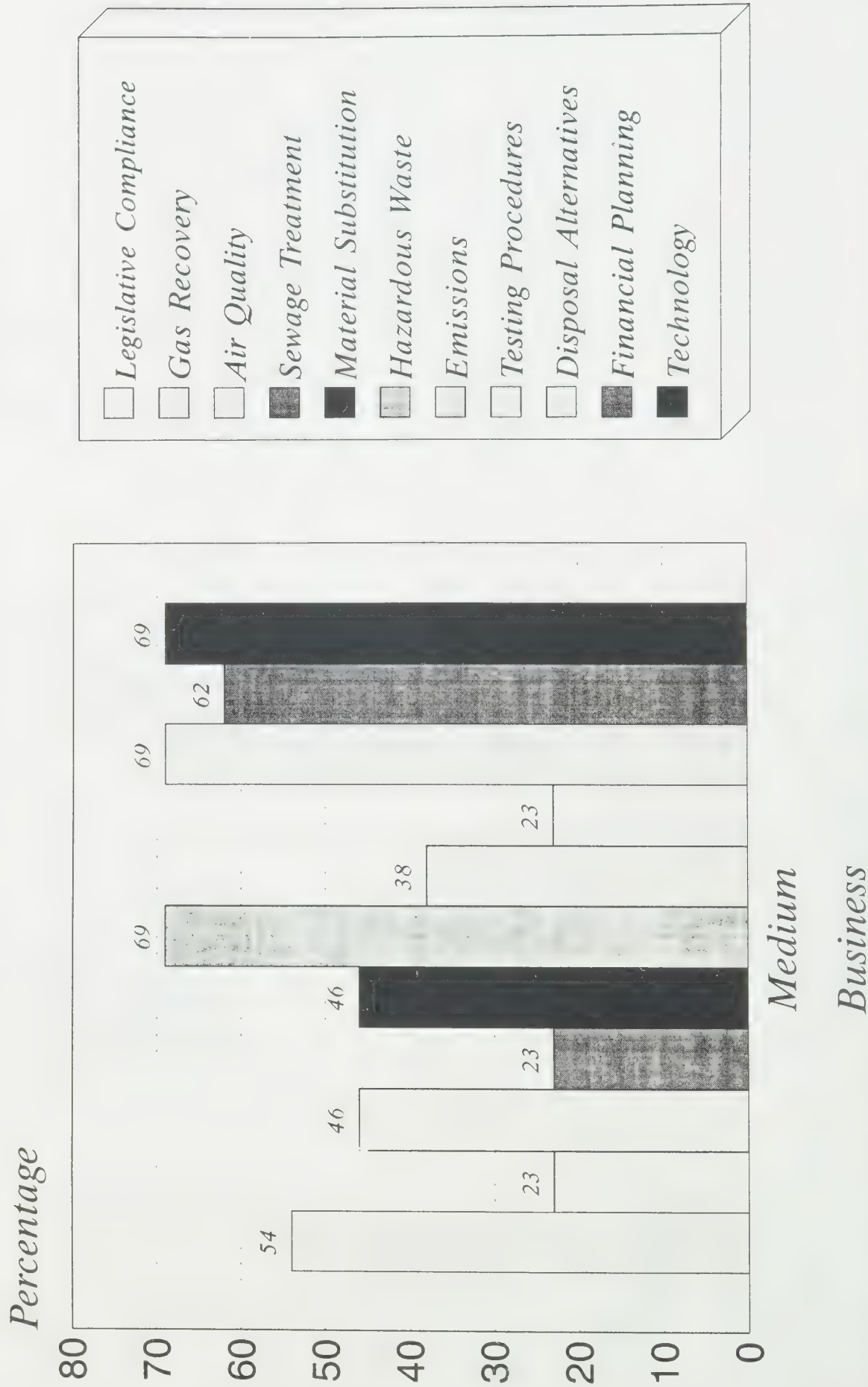
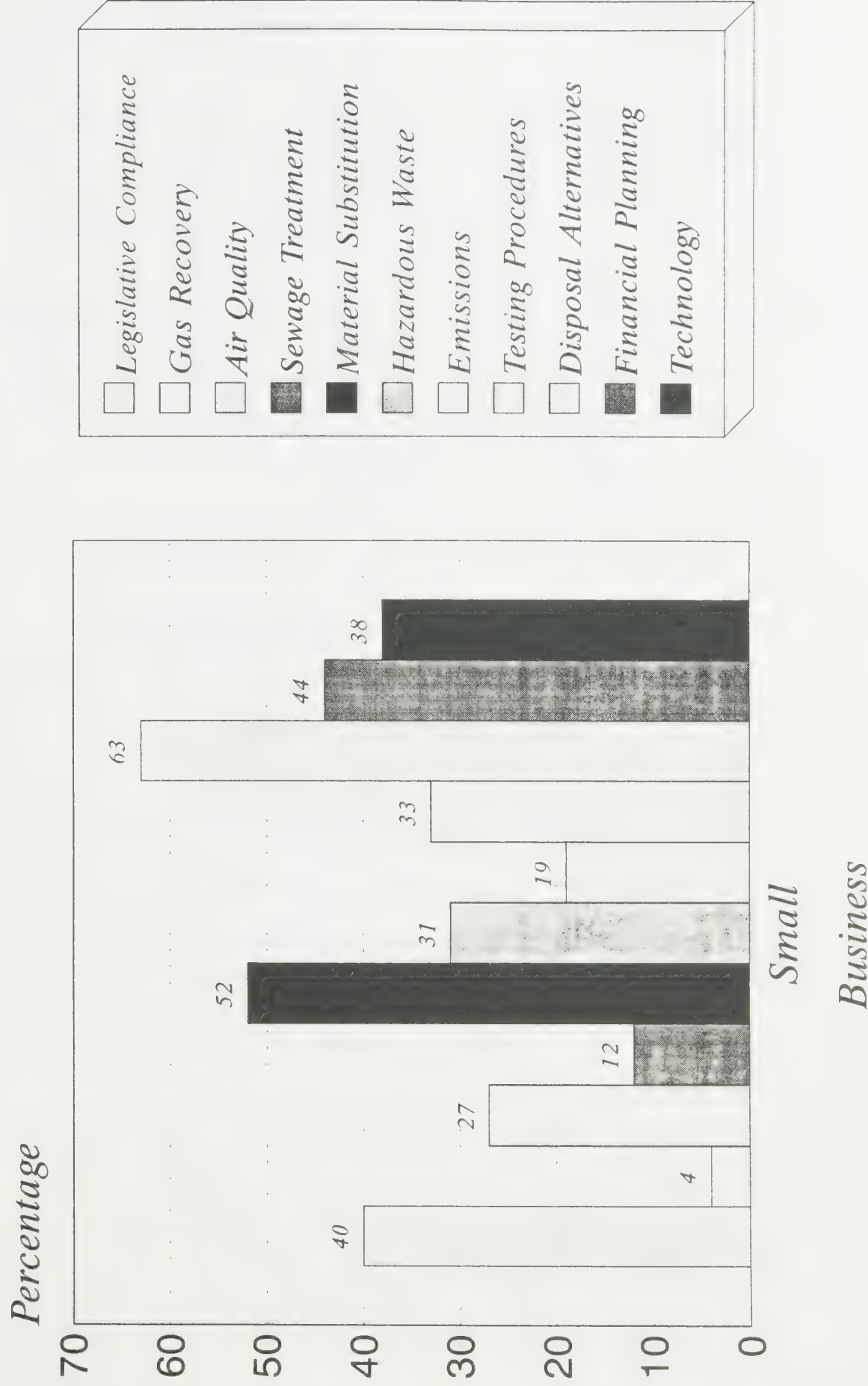


FIGURE CONST 22

Environmental Training That Would Benefit A Company The Most



(45%), technological innovations (45%), hazardous waste management (39%), air quality control (33%), testing procedures (31%) and emissions (24%) was also seen as needed. Sewage treatment (15%) and gas recovery (9%) were not seen as required.

Results indicate a very high need for many different aspects of environmental training. This can be viewed as indicative of a number of factors including financial (disposal alternatives to high tipping fees, legislative compliance i.e. avoiding fines and financial planning i.e. liability and insurance), workplace safety (air quality control, hazardous waste management) and the overall protection of the environment.

What is the largest barrier to environmental training of your staff?

This question was asked to determine what was preventing business from going forward with training that it needs. Eight options were provided.

Barriers to training in the construction sector are predominantly knowledge then financially based. Overall 64 per cent of companies indicated they had difficulty in assessing their needs, 55 per cent had a lack of information about programs and 43 per cent a lack of technical knowledge. Forty-five per cent cited a lack of financial resources and the same percentage selected an inability to give time off as serious impediments. The unavailability of training (21%), employee resistance (7%) and lack of management support were not seen to be as serious. Results in the large (Figure Const 23), medium (Figure Const 24) and small businesses (Figure Const 25) tended to vary. Small companies saw the inability to assess their needs and a lack of information about training as being their top two barriers, while medium sized operations listed financial reasons

FIGURE CONST 23

Largest Barrier To Environmental Training For The Staff

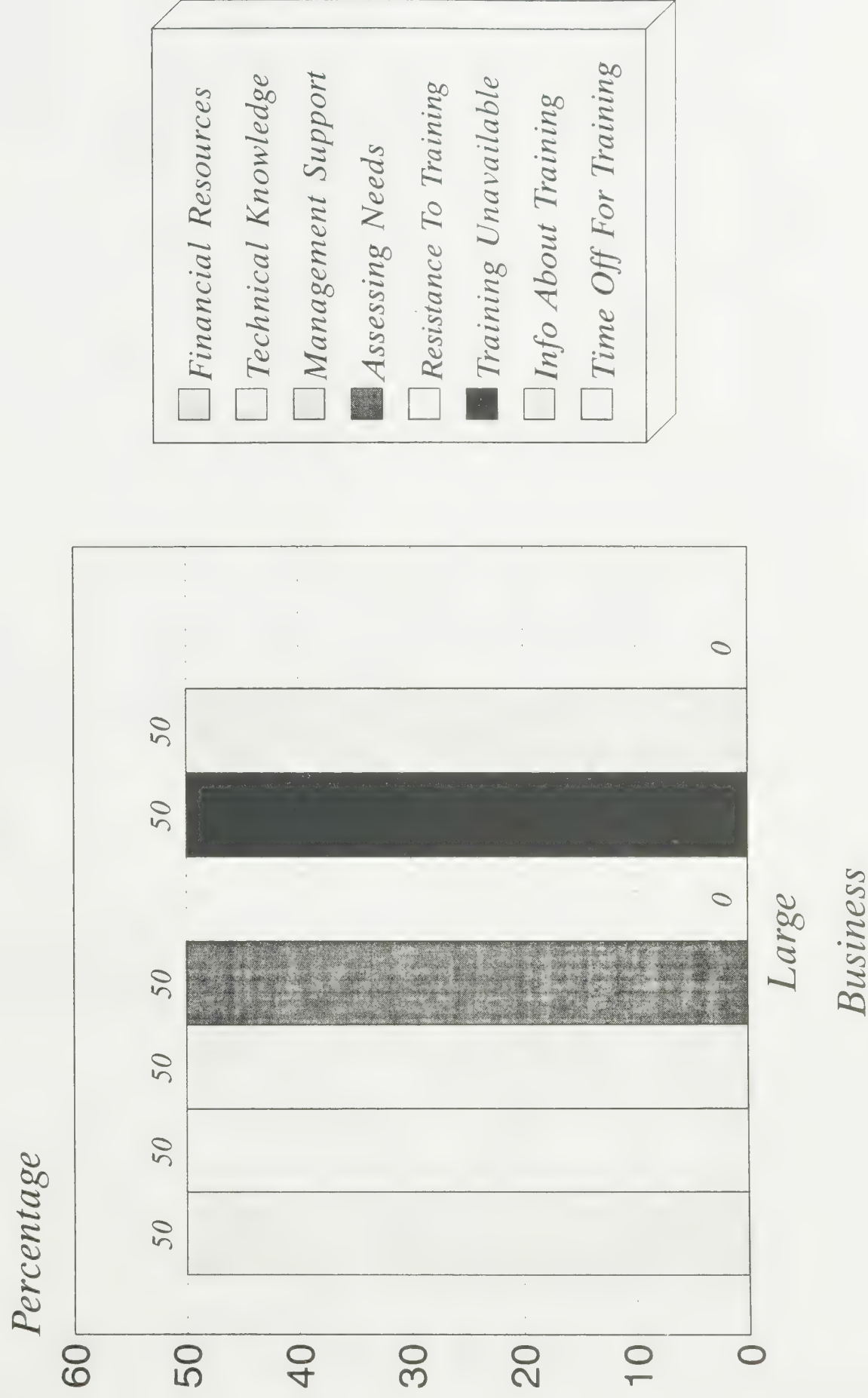


FIGURE CONST 24

Largest Barrier To Environmental Training For The Staff

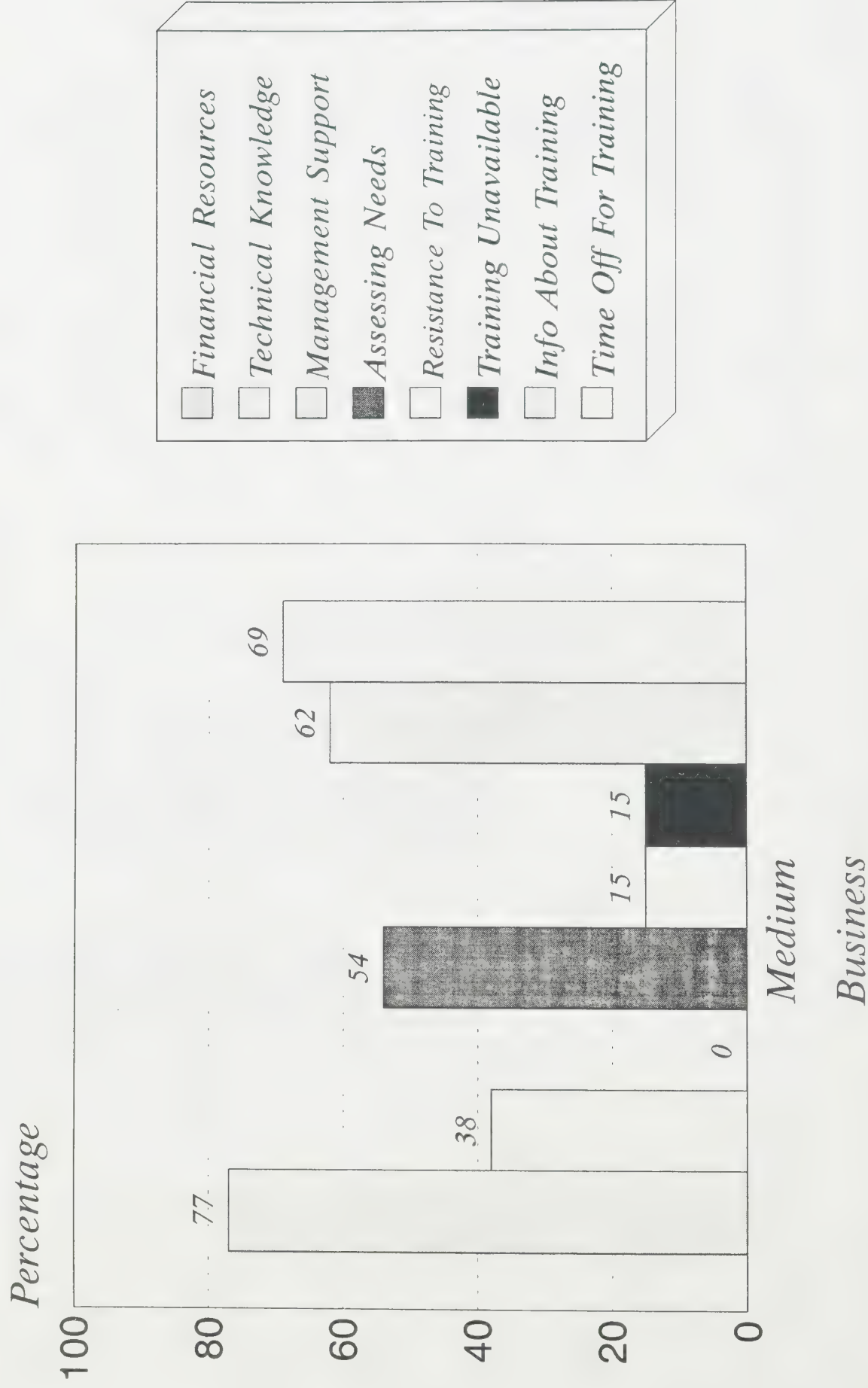
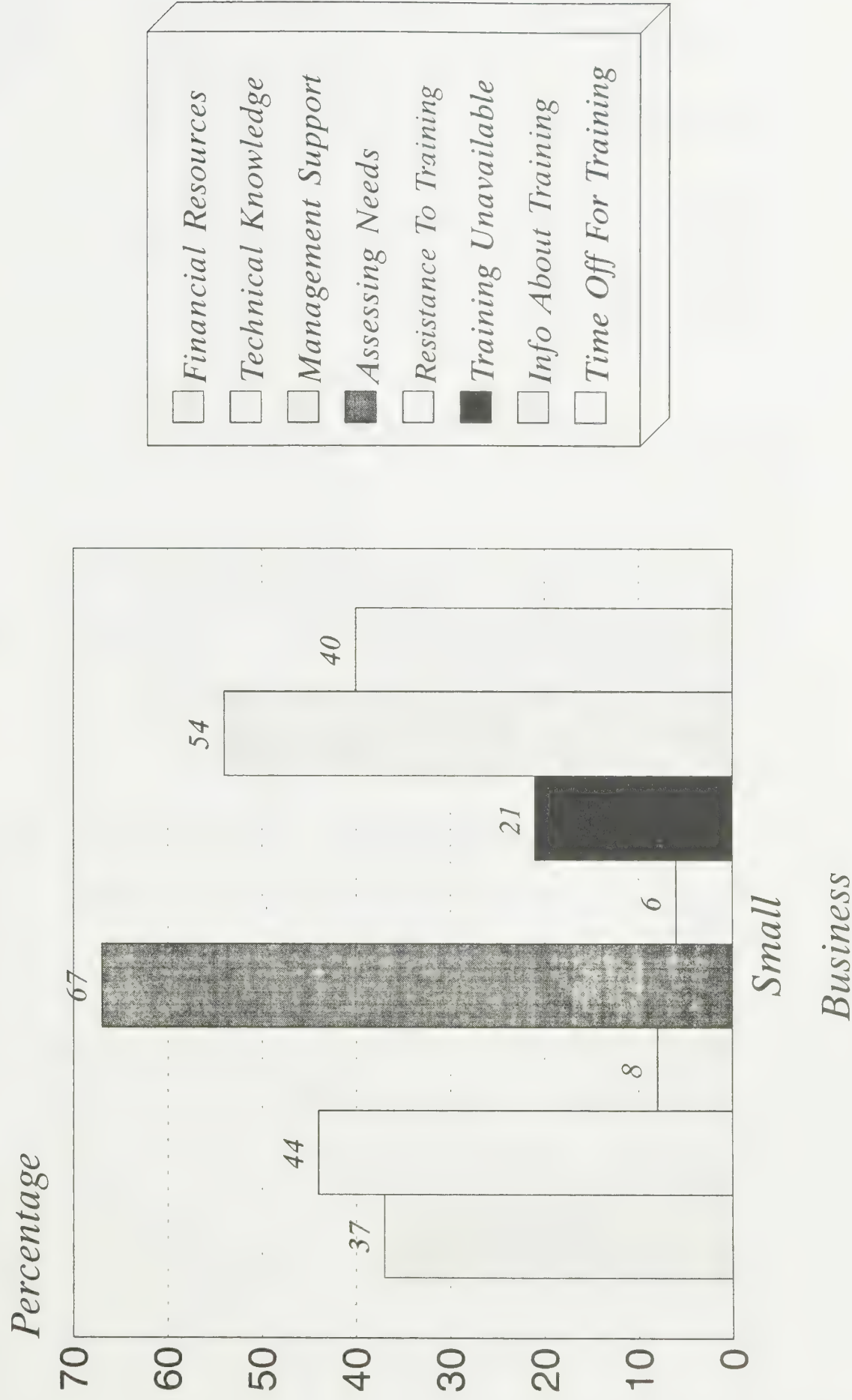


FIGURE CONST 25

Largest Barrier To Environmental Training For The Staff



and difficulty in giving time off.

When involved in training which type of format do you prefer?

This question was asked to determine what training times most suited business needs. Six options were presented.

On site (78%), seminars/workshops (66%) and evenings (42%) (Figure Const 26) were the preferred training formats for the construction industry. Training that took place one-half day a week (21%), intensively for a half week (15%) or were full time in school (7%) were not seen to be as viable. With the exception of apprenticeship training, there is very little formalized training that takes place on a construction site, despite the strong call for it. This suggests that our institutions and trainers are not being as adaptive as they could be in meeting this need.

Do you foresee a need to hire graduates from an environmentally related course?

This question was asked to determine which businesses were breaking out environmental responsibilities as distinct occupations.

While large business foresees no need for an environmental specialist, eight per cent of medium sized business and 10 per cent of small businesses (Figure Const 27) indicated they could predict a need to hire a graduate from an environmental program. Overall, 91 per cent of companies indicated they wouldn't hire someone with environment specific training. This underscores the need for environmental training to be integrated into all construction related courses.

FIGURE CONST 26
When Involved In Training Which Type Of Format Do You Prefer

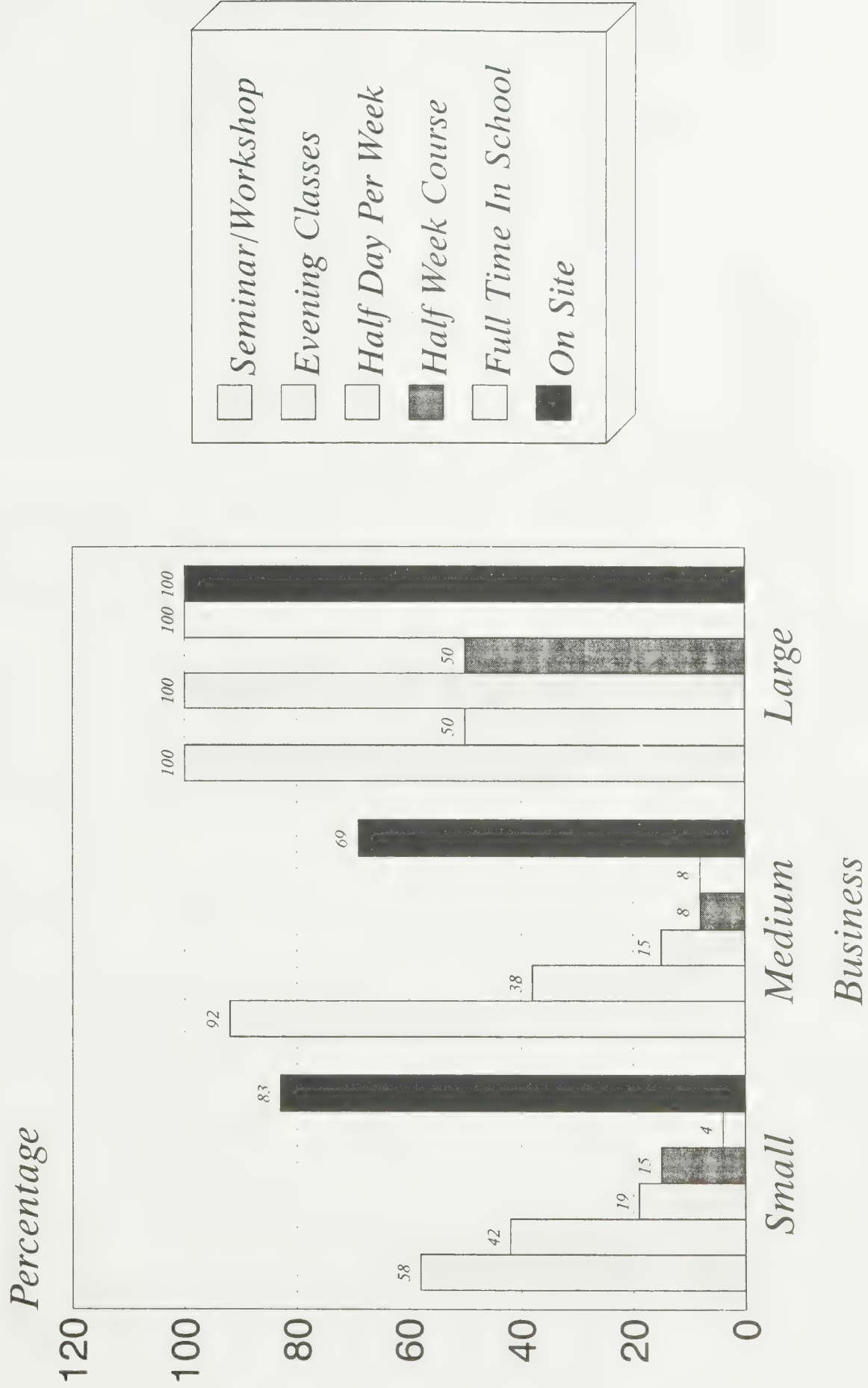


FIGURE CONST 27

Do You Foresee A Need To Hire Graduates From An Environmentally Related Course

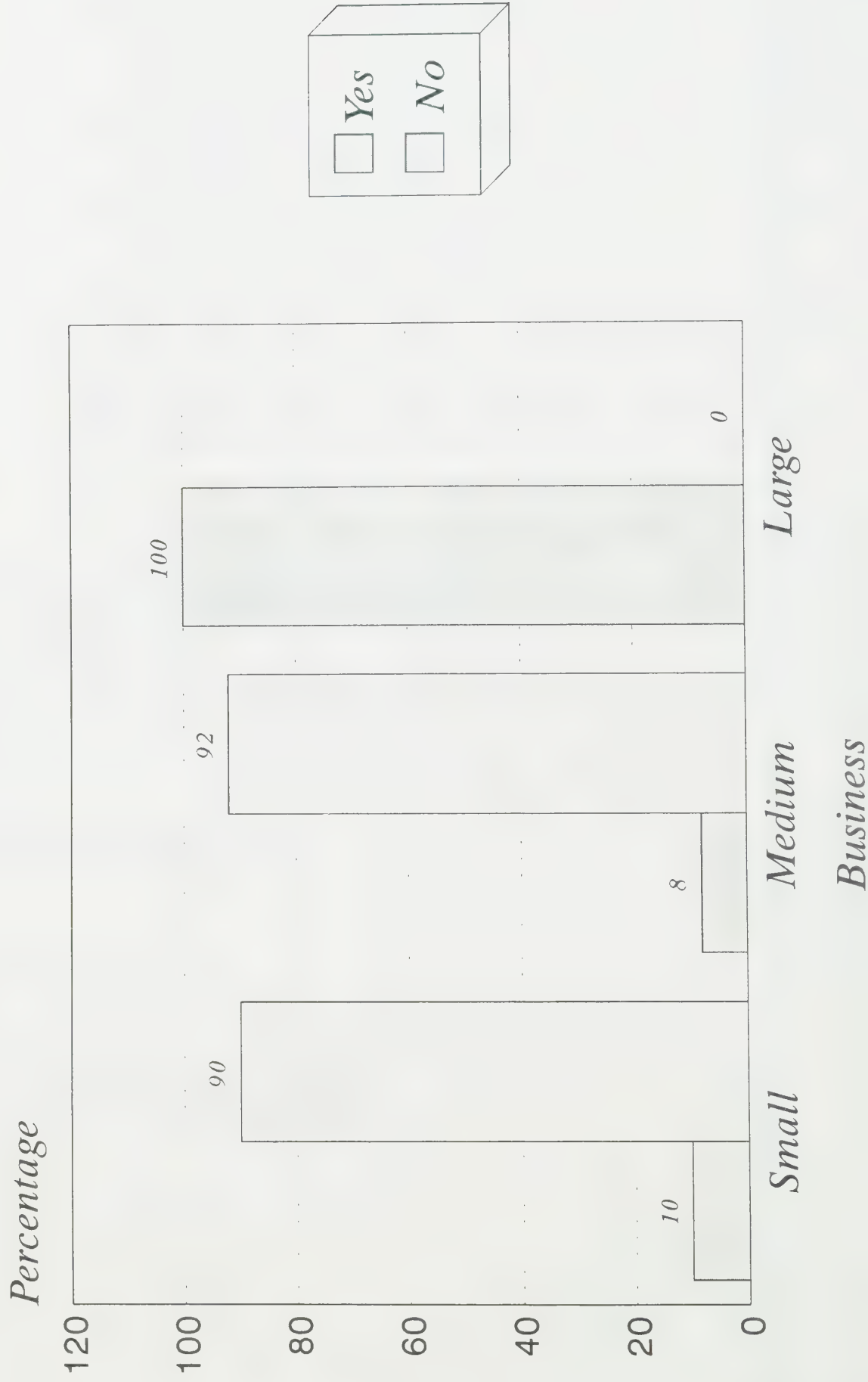


FIGURE CONST 28

Did The Information Sheet Provided Helpful In Any Way

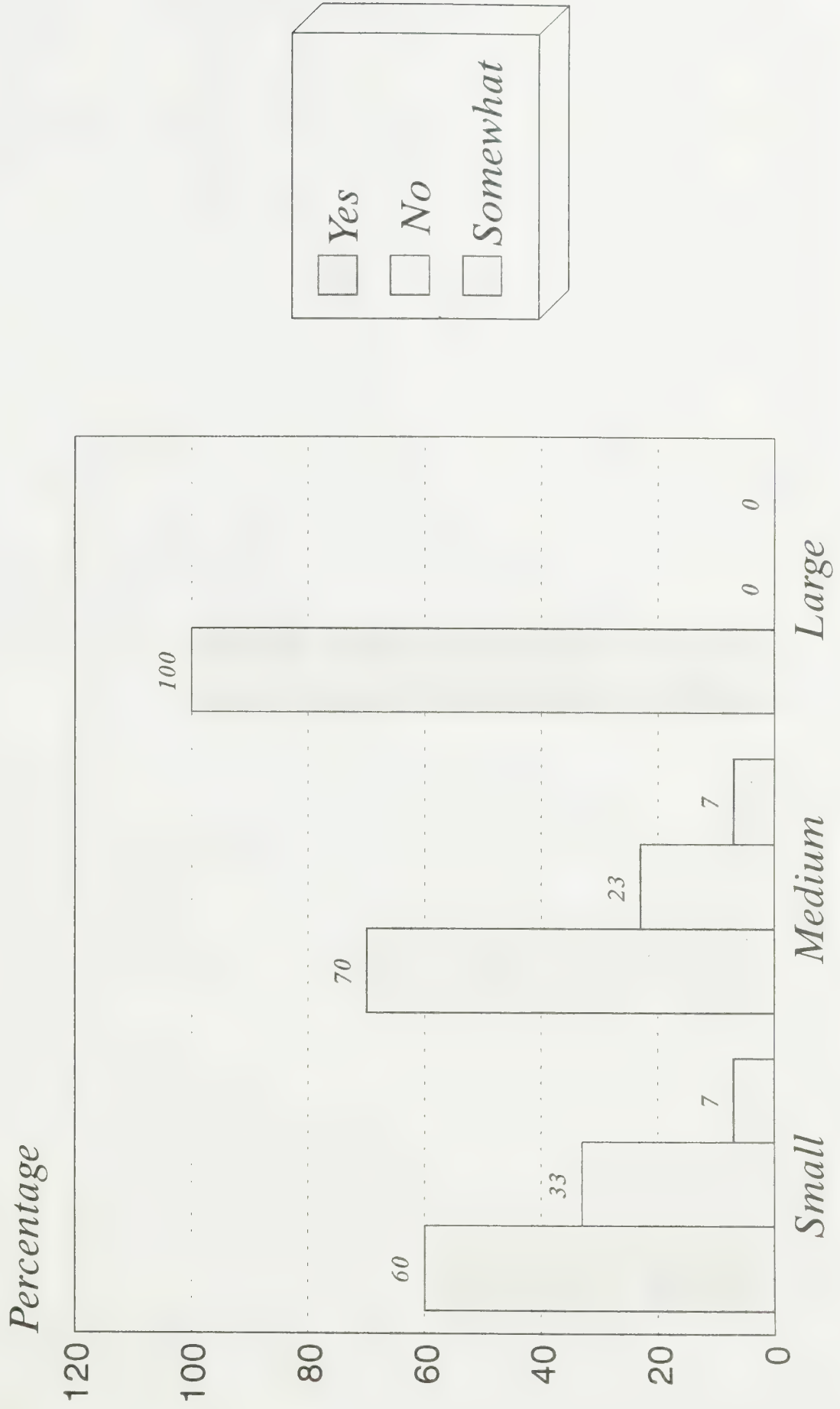
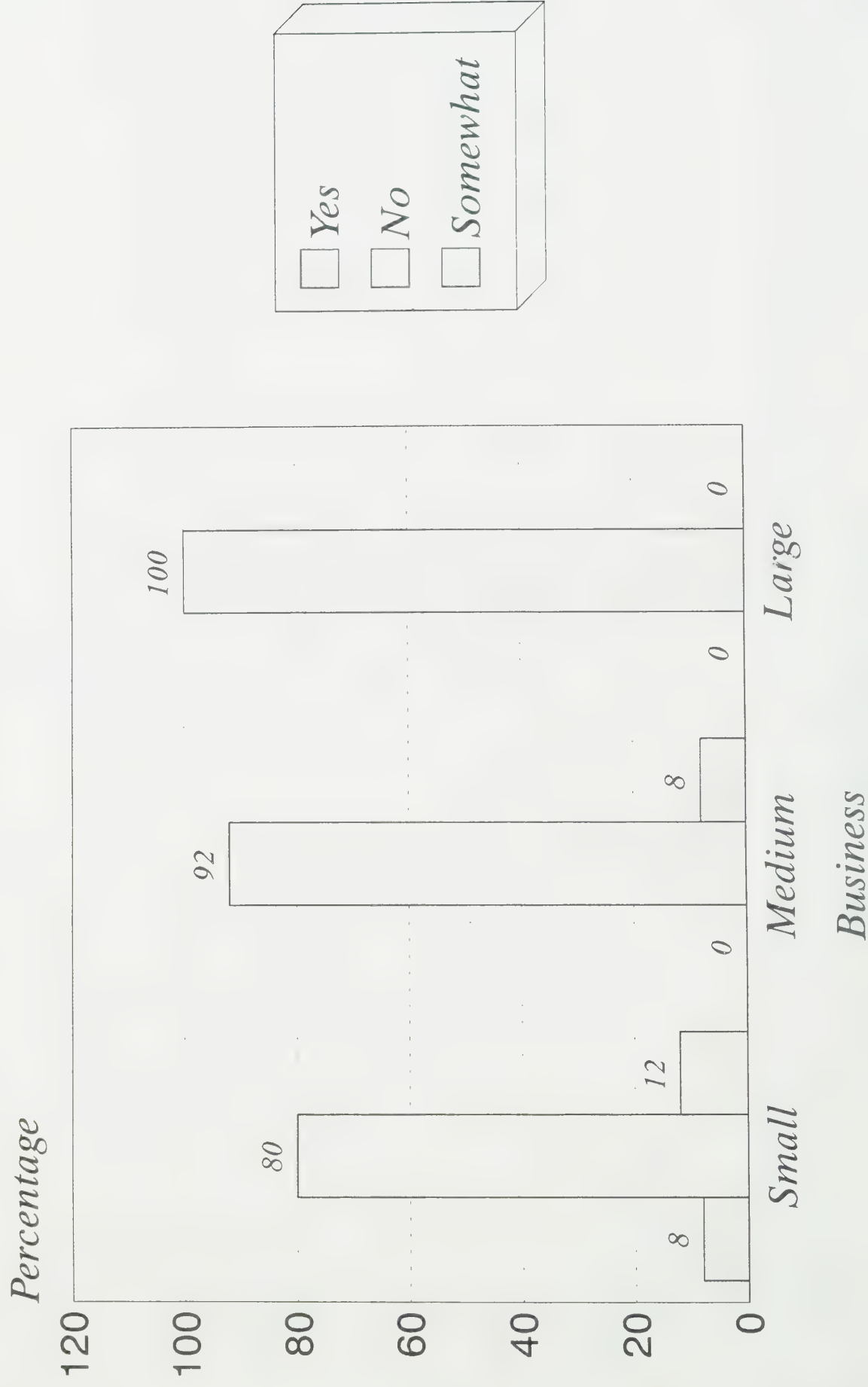


FIGURE CONST 29

Did It Influence Any Of Your Answers After It Was Given To You



Did you find the information we provided helpful?

Did it influence any of your answers after it was given to you?

These questions were asked after tranSKILLS conducted and presented research into the environmental impact on the industry as determined by environmental experts. We were attempting to determine whether new ways of collecting labour market information would enhance business without adversely effecting survey results.

Seventy per cent of all companies surveyed indicated they found the information sheet helpful or somewhat helpful (Figure Const 28), while eighty-five per cent of the respondents said it did not influence their answers (Figure Const 29). As evidenced in other parts of this report on the construction sector, there is a tremendous need for information that can assist the industry, small business in particular, in beginning to address it's training needs around the environment. As in other "hands-on" or tactile trades, small business in the construction sector is not as well equipped to deal with the administrative demands place on it by governments and bureaucracies. New approaches, like this one, are needed to be put in place in order to provide business with information it needs to become environmentally sound while remaining profitable.

Finance

tranSKILLS interviewed 34 owners or managers of companies within the local financial field representing 11 per cent of the total survey population of 317. The financial field consisted mainly of financial consultants, bank, credit union and trust company branches, insurance companies and accounting practices. All but one of the interviews was conducted with small companies employing between 1-20 people. Results of the one survey conducted with the a large (100+ employees) credit union have been included in with the 33 surveys conducted with small firms. All surveys were done in person.

Job Title: Person on staff who perform environmental tasks.

Does your company have someone on staff in charge of environmental issues?

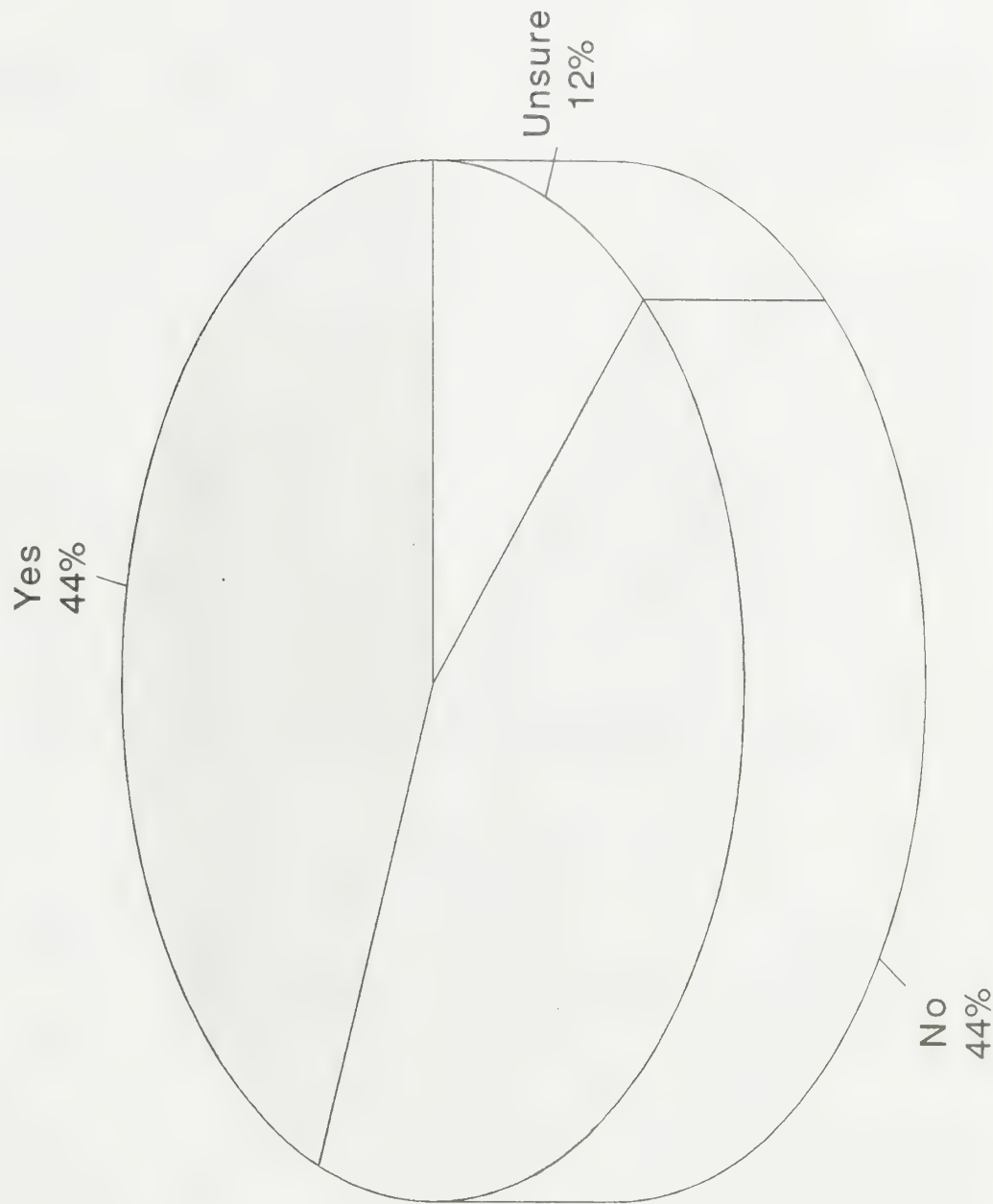
These questions were asked to determine if companies were assigning specific environmental duties to workers and whether someone was ultimately responsible for the environment within a workplace. We hoped to determine if there was one occupation to which the responsibility of environmentally related tasks fell.

In the financial industry the responsibility for performing environmental tasks fell on a number of different occupations ranging from chartered accountant to customer service representative. An equal number of companies indicated they had someone on staff in charge of environmental issues (44%) as those who indicated they did not (44%) while the remainder were unsure (Figure Fin 1).

The diversity of occupations in which someone is charged with performing an

FIGURE FIN 1

Companies Having Someone On Staff Who Is In Charge Of Environmental Issues



<input type="checkbox"/> Yes
<input type="checkbox"/> No
<input type="checkbox"/> Unsure

Small Business

environmental task is indicative of the need to incorporate some environmental training into the occupations which make up the financial sector.

How many people overall have been hired in the last year?

How many people do you need to hire today?

Have you had any difficulty in hiring?

Do you anticipate any new hires over the next 12 months due to growth?

Do you anticipate any new hires over the next 12 months due to staff replacement?

These questions, which appeared in different parts of the survey, have been placed together as they reflect the past and future growth of the sector surveyed. They also assist in anticipating any future needs and potential difficulties in meeting those needs.

A total of 12 people were hired by survey respondents last year, all of them by the one large company included in these results. Two small companies indicated they needed to hire one person each at the time of data collection. No organization had any difficulty in hiring. Future growth in this industry over the next year appears limited as 91 per cent of respondents indicated they would not need to hire anyone due to growth (Figure Fin 2) and 97 per cent saw no need for new hires because of staff replacement (Figure Fin 3). The slight growth that was indicated came from the sole large firm and two small companies. Only small companies foresaw a need to replace departing staff.

How many people on your staff require skills upgrading?

What are the skills your staff need in order to meet the current and future needs of your industry?

FIGURE FIN 2

Do You Anticipate Any New Hires Over The Next 12 Months Due To Growth

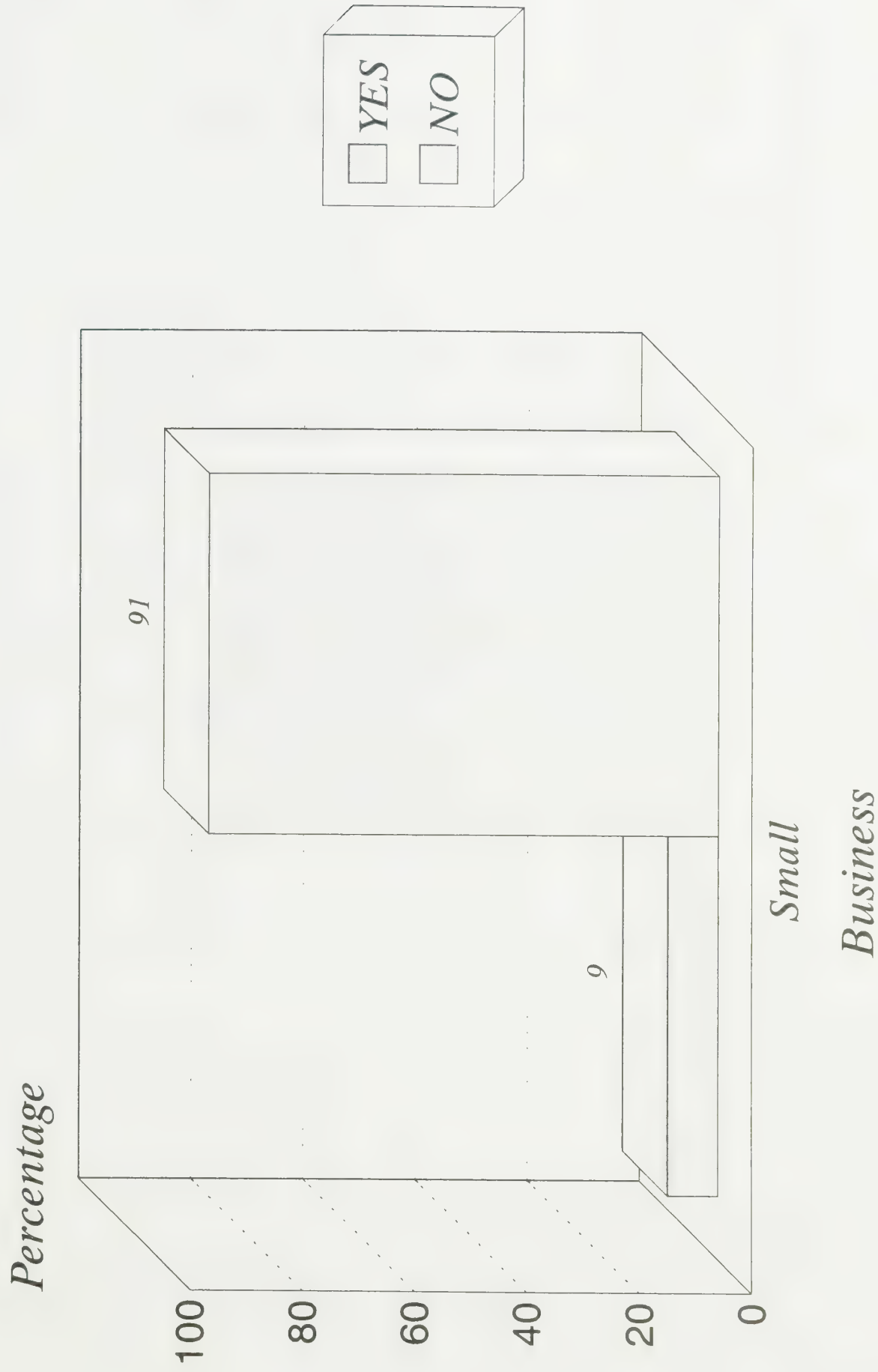
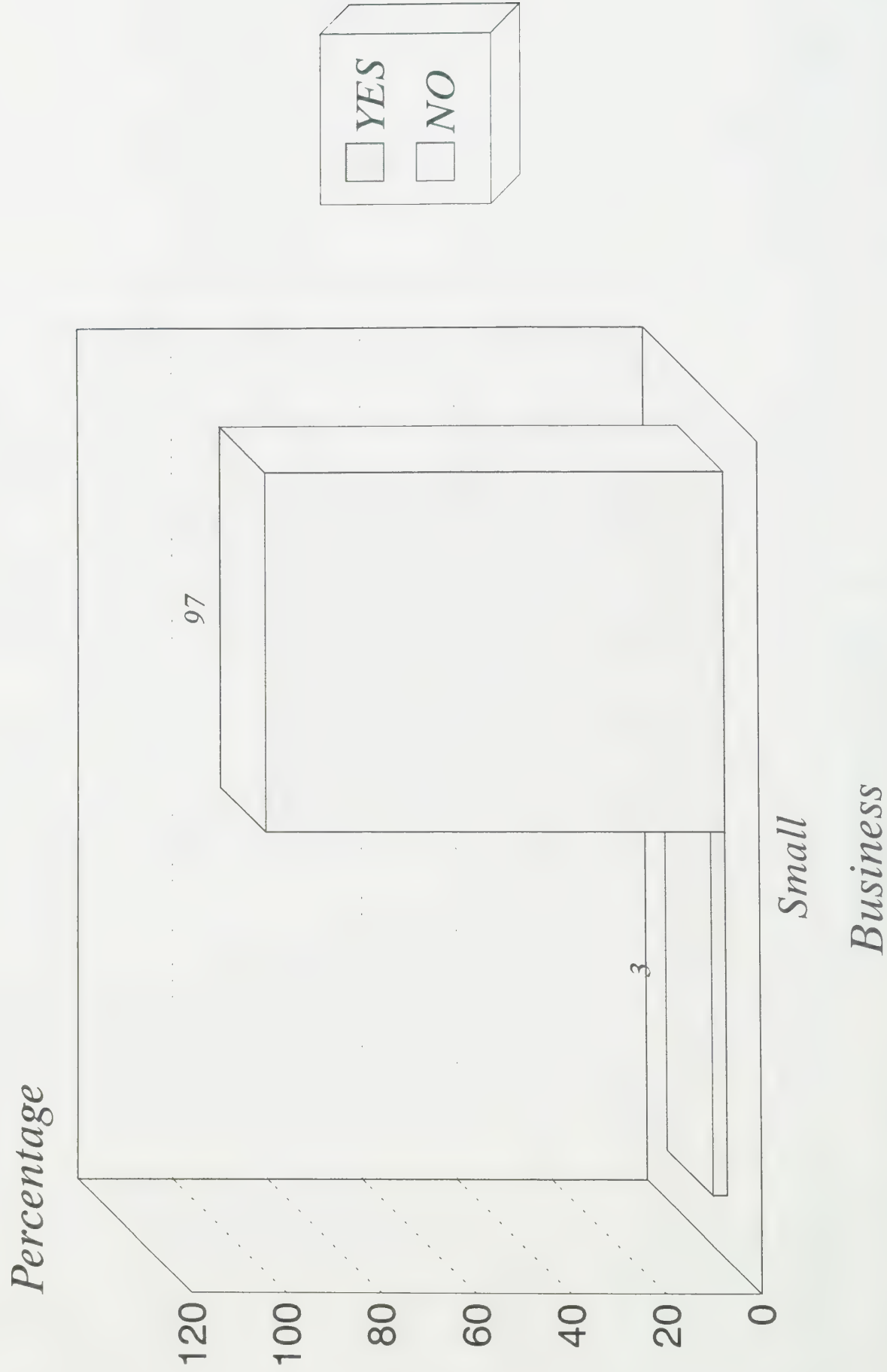


FIGURE FIN 3

Do You Anticipate Any New Hires Over The Next 12 Months Due To Staff Replacement



These questions were asked to determine the extent and type of training required?

In total, 65 per cent of survey respondents indicated all of their staff required training while 29 per cent said some did and only six per cent felt no one on their staff needed skills upgrading (Figure Fin 4). Computer skills were indicated by 47 per cent of companies as the training they needed most, 32 per cent of survey respondents felt their staff would benefit most from training in communications/customer relations, although a total of 45 distinct skill areas were identified by the 34 companies surveyed.

Do you plan on introducing new equipment next year?

What kinds of equipment?

What impact will this equipment have on the skill requirements of the occupations affected?

Do you plan on introducing new processing methods?

Can you describe the impact these new processing methods will have on the skill requirements of those affected?

To what extent do you expect technology to impact on your business in the next 2 to 3 years?

These questions were asked to determine the extent of change in each sector and the awareness of the effects that change will have.

The introduction of new equipment will take place in 56 per cent of the companies surveyed (Figure Fin 5) while only 35 per cent plan on introducing any new processing methods (Figure Fin 6). 91 per cent expect the introduction of new technology to have a

FIGURE FIN 4

How Many People Of Your Staff Require Skills Upgrading

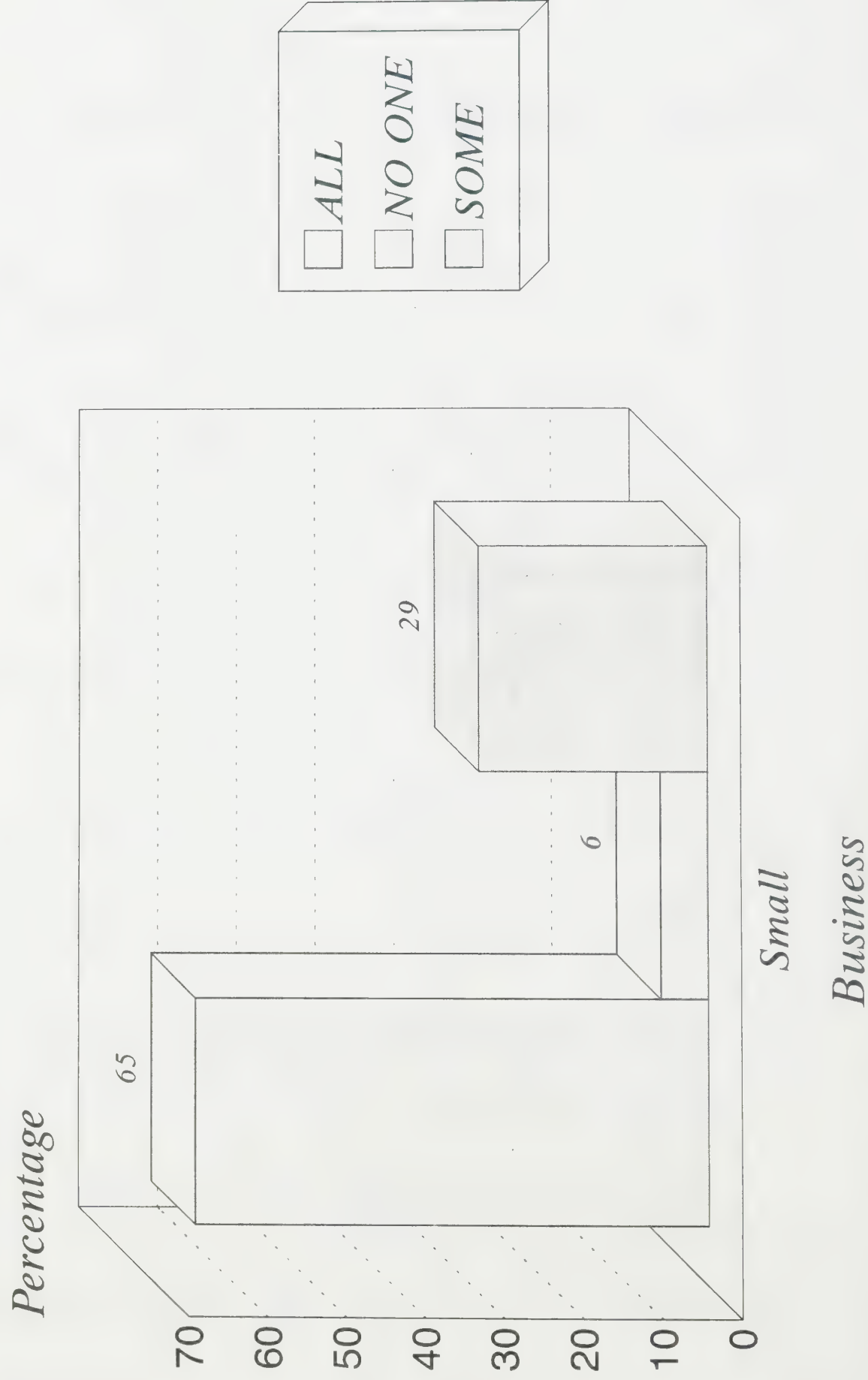
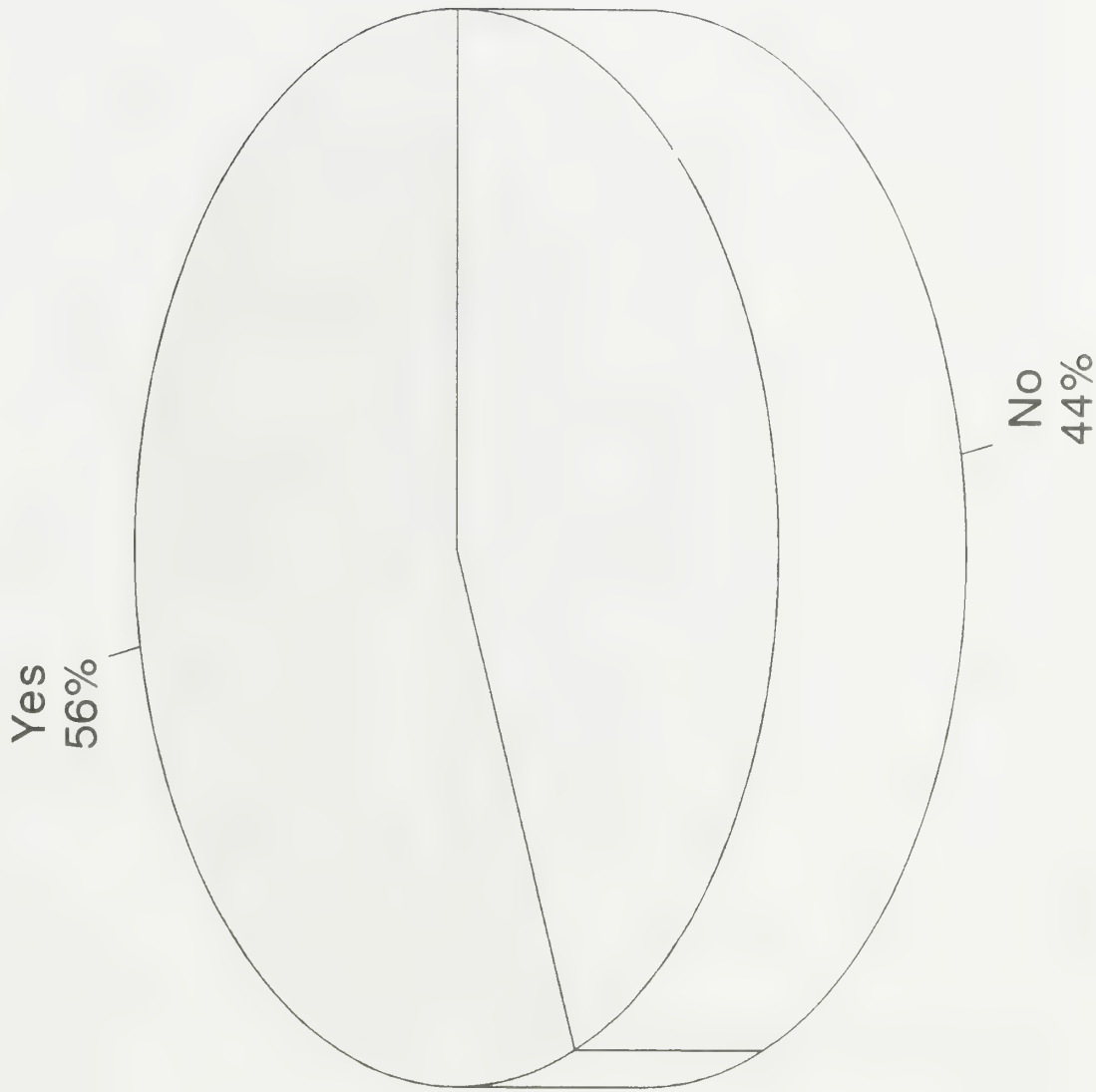


FIGURE FIN 5

Do You Plan On Introducing New Equipment Next Year

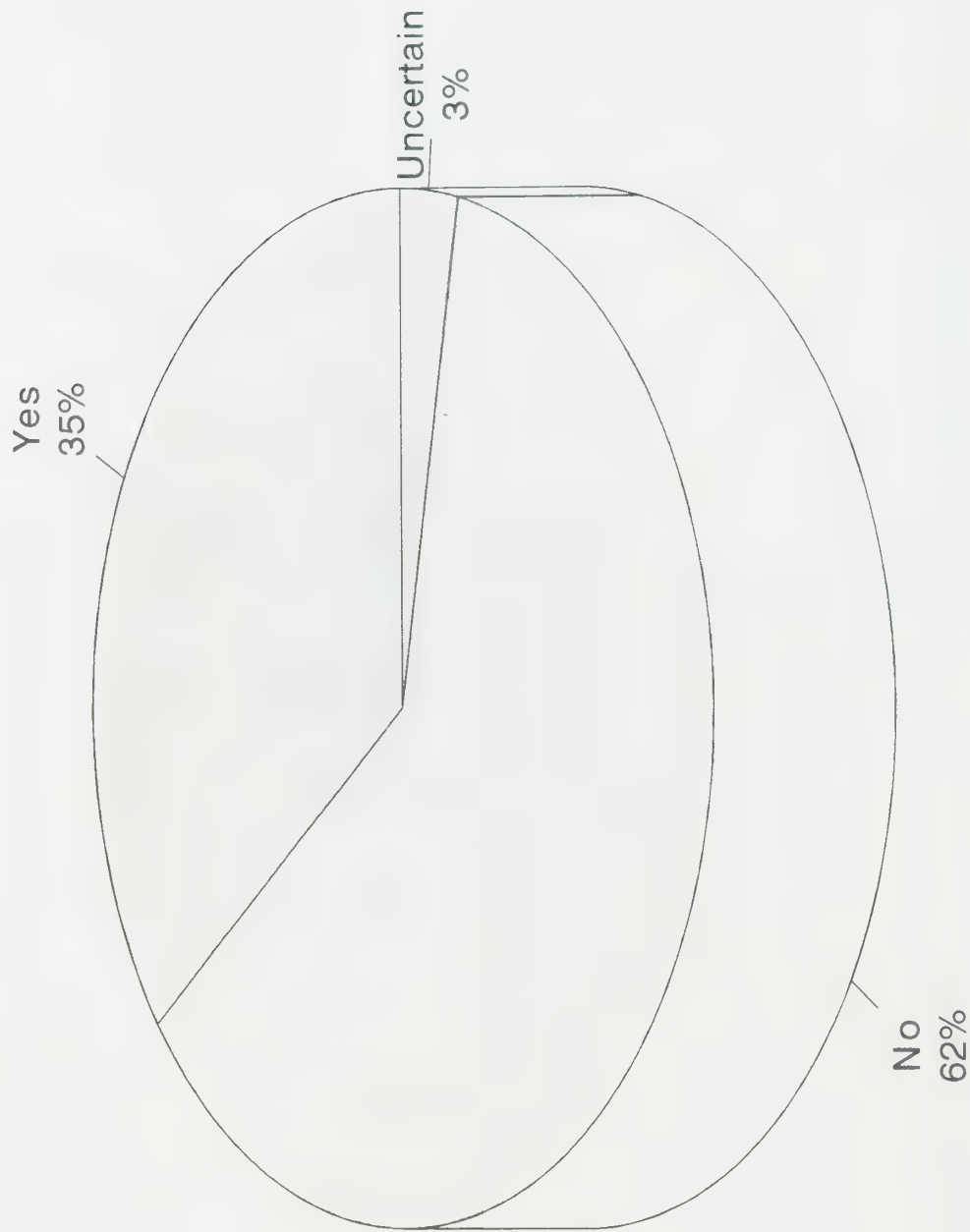


<input type="checkbox"/> <i>Yes</i>	<input type="checkbox"/> <i>No</i>
-------------------------------------	------------------------------------

Small Business

FIGURE FIN 6

Do You Plan On Introducing New Processing Methods



moderate to very substantial impact on their business over the next two to three years (Figure Fin 7). New computer related equipment was the predominant type of technological change expected indicated by 44 per cent of survey respondents. New processing methods fell in line with computerization as a reduction in the flow of paper and a growth in customer services were widely anticipated due to computer advancements.

The growing reliance on computers in the financial sector has many business indicating an extremely high technological impact as the rapid change in computer technology has forced business to scramble to keep up. This is reflected in previous results when 94 per cent of all companies indicated all or some of their staff staff needed skills upgrading.

Is your business currently regulated by an environmental government department?

Do any of your staff require environmental certification to perform their jobs at present?

Are any of your staff able to identify critical functions related to the environment?

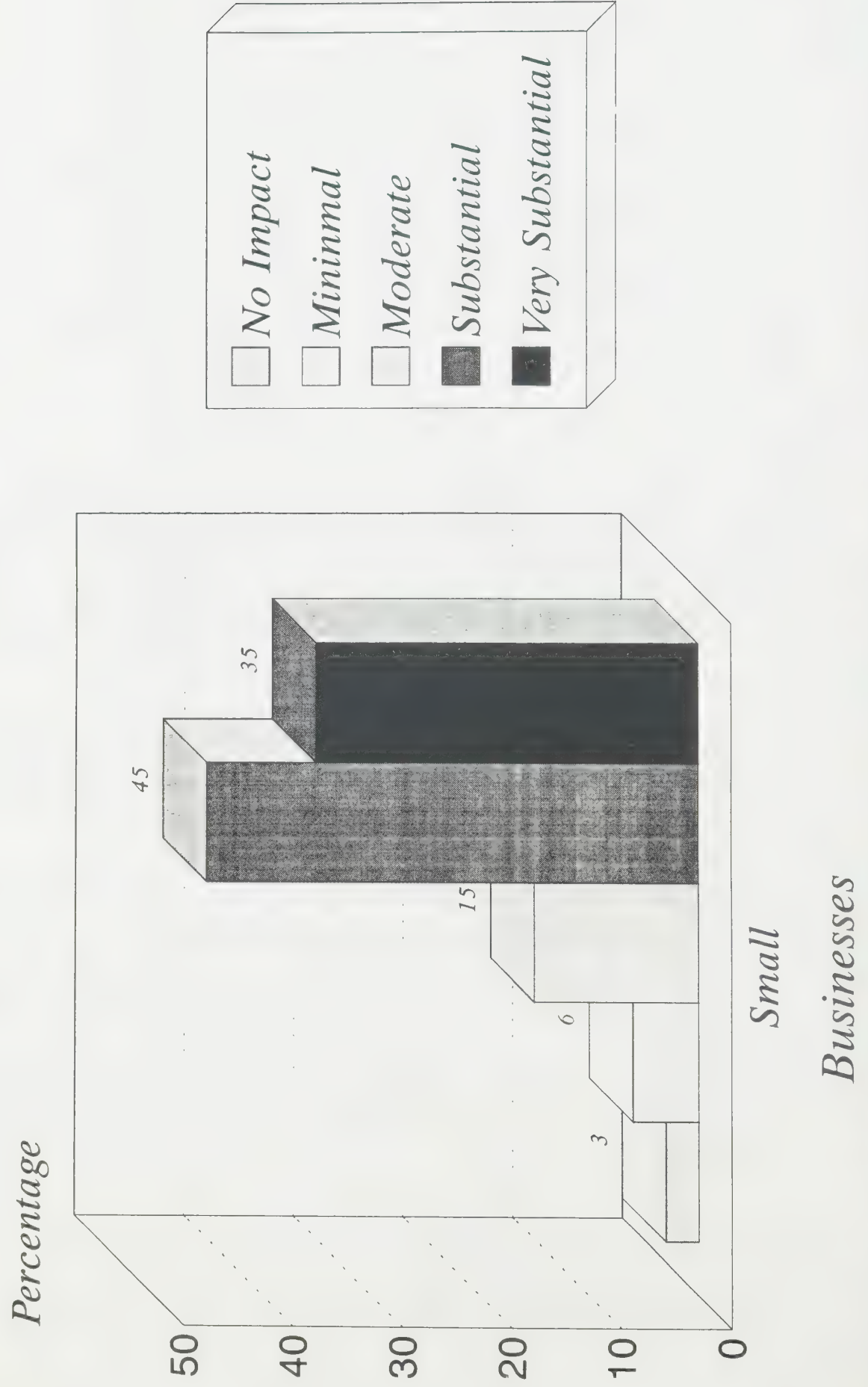
Do you currently train your staff on environmental issues?

Have any of your employees attended seminars or courses related to the environment?

These questions were asked to determine the degree of business awareness and response regarding the environment.

In varying forms all business are subject to environmental regulations enforced by a variety of governmental departments or ministries. However, it is not surprising that 62

FIGURE FIN 7
Technological Impact On Businesses Over The Next 2 To 3 Years



per cent of all survey respondents indicated they were not regulated (Figure Fin 8) as the nature of environmental impacts in the financial sector tends to be non-threatening. This is further reflected in findings that show 94 per cent of companies do not require staff to have environmental certification to perform their jobs (Figure Fin 9) and only 18 per cent have staff able to identify critical functions related to the environment (Figure Fin 10). This is not to say that there is no perceived need for greater environmental awareness as 38 per cent of surveyed companies indicated they are currently training staff on environmental issues (Figure Fin 11), up from the 26 per cent who indicated they had previously had staff attending seminars or courses related to the environment (Figure Fin 12).

While it is understandably difficult for information based service sectors, like financial, to perceive themselves as having a large impact on the environment, it is encouraging to see them identifying the need for training in environmentally sound practices within their organization (as indicated by Figures Fin 11 & 12). As the service sector of our economy increases in size it is important that sustainable development practices not be viewed as applying only to the manufacturing portion of the economy, but be part of the long term planning of all sectors.

Which of the following areas are of concern in the operation of your company?

This question provided the company with eight choices and was asked to determine specific areas of environmental concern.

Recycling (82%), solid waste (68%), depletion of natural resources (47%) and air quality

FIGURE FIN 8

Businesses Currently Regulated By An Environmental Government Department

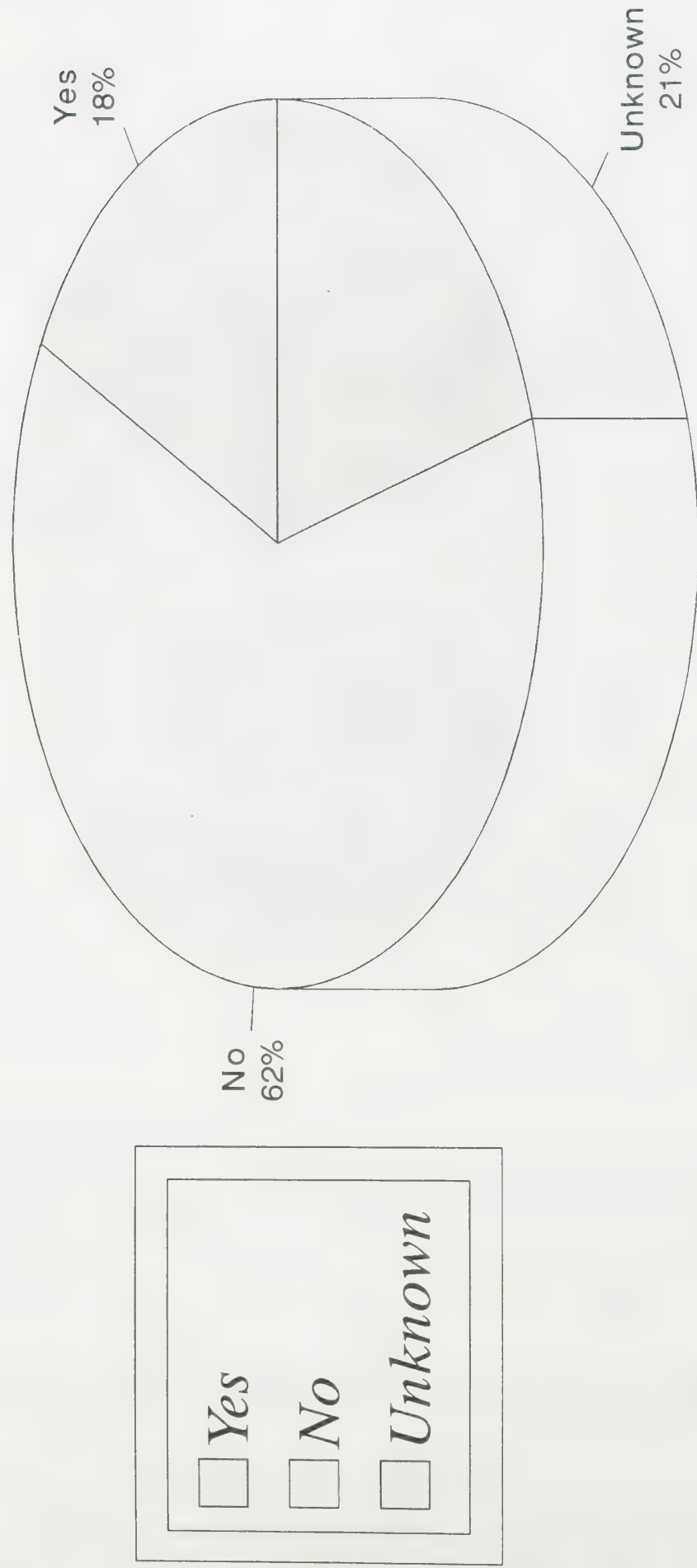
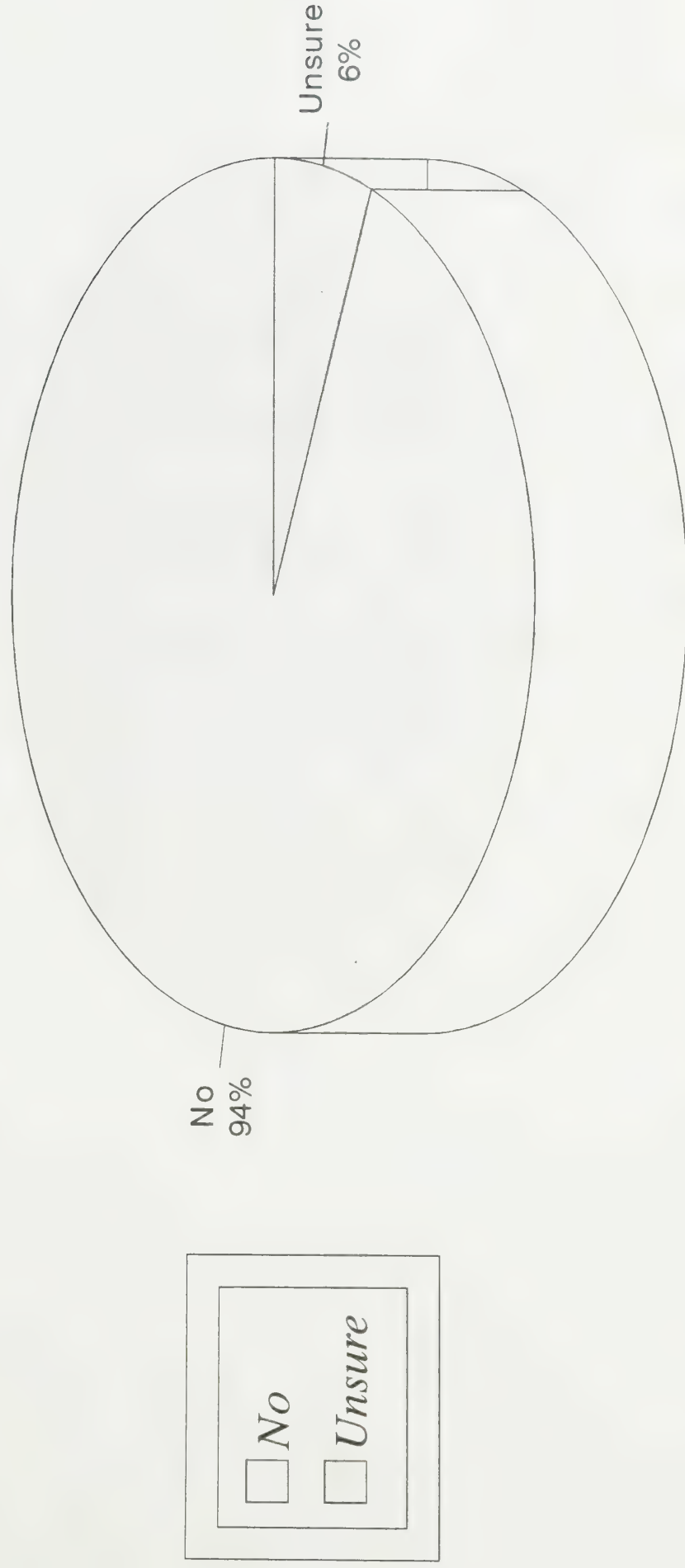


FIGURE FIN 9

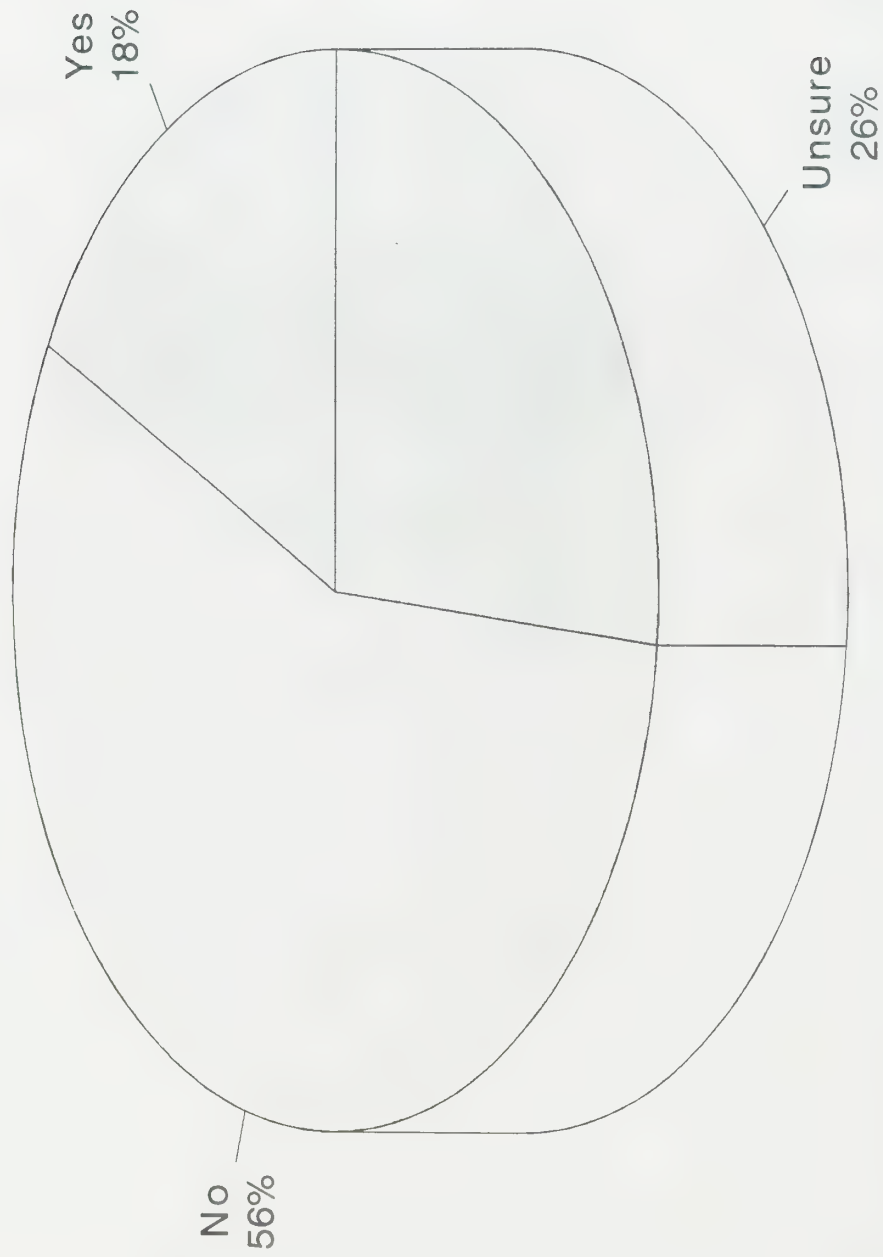
Staff Requiring Environmental Certification To Perform Their Job



Small Business

FIGURE FIN 10

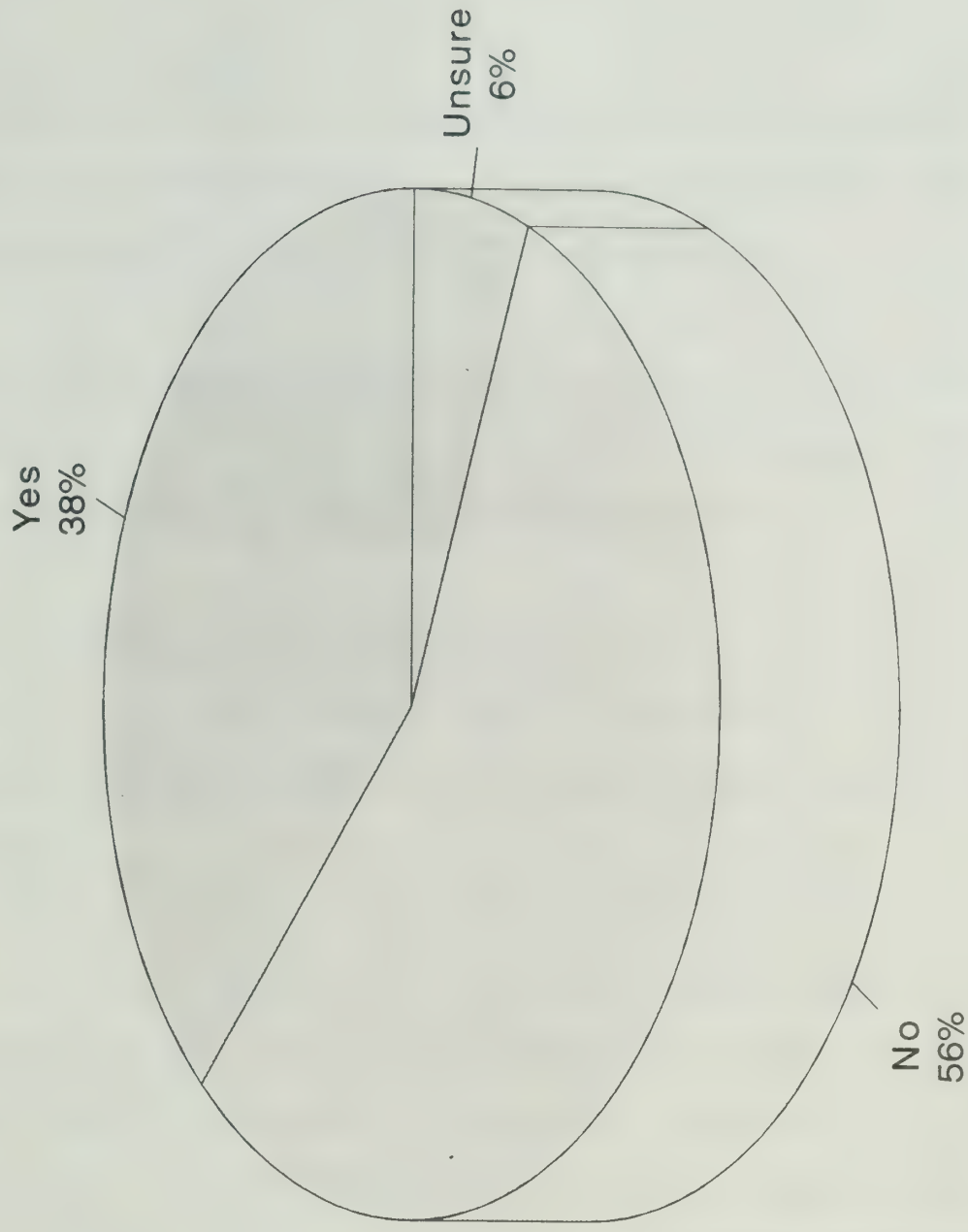
Are Any Of Your Staff Able To Identify Critical Functions Related To The Environment



<input type="checkbox"/> Yes
<input type="checkbox"/> No
<input type="checkbox"/> Unsure

FIGURE FIN 11

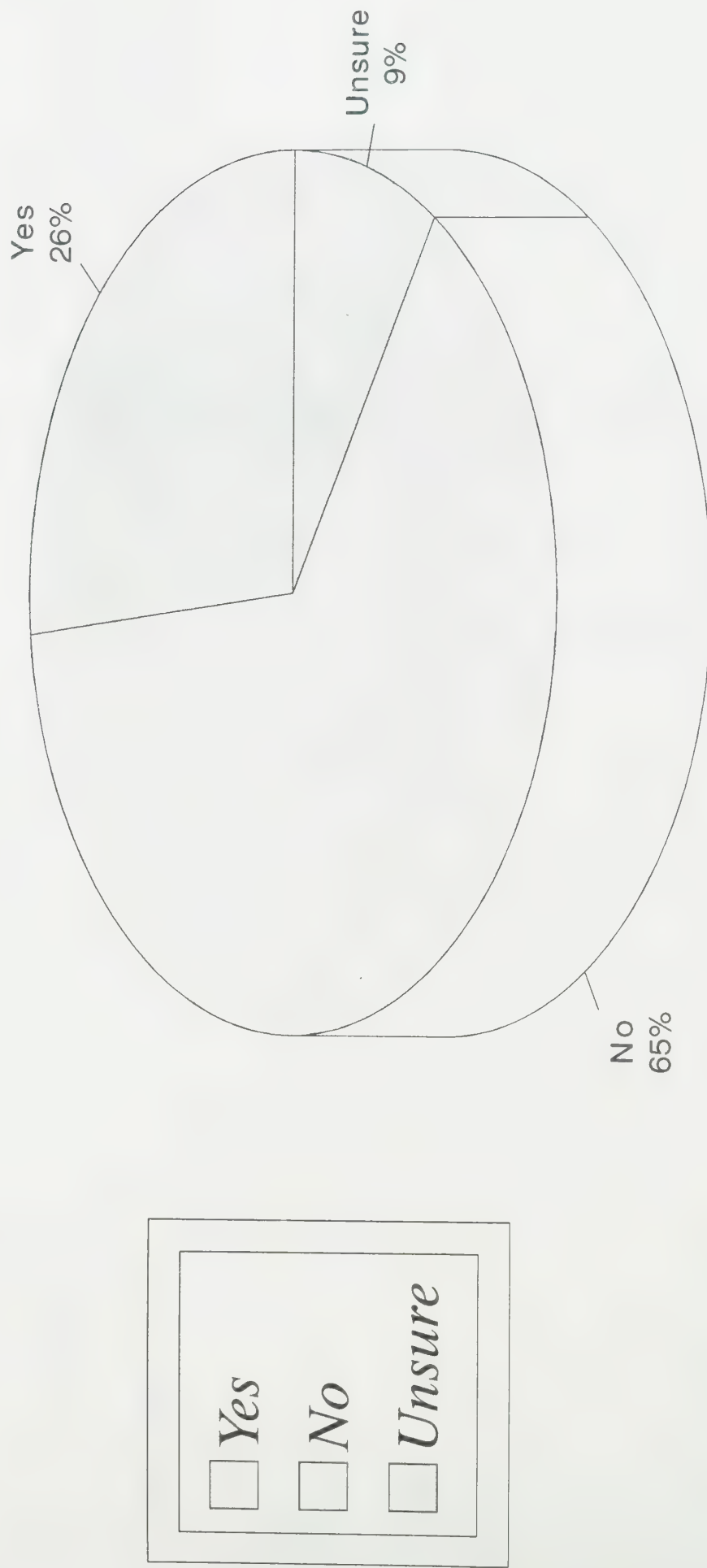
Do You Currently Train Your Staff On Environmental Issues



<input type="checkbox"/> <i>Yes</i>
<input type="checkbox"/> <i>No</i>
<input type="checkbox"/> <i>Unsure</i>

FIGURE FIN 12

Have Any Of Your Employees Attended Seminars Or Courses Related To The Environment



(41%) were indicated as being of the greatest concern to financial organizations. Legislative compliance and water quality (29%) were somewhat concerning while toxic waste (15%) and liquid waste (15%) were of lesser concern (Figure Fin 13).

The large amounts of paper used within financial companies appears to be driving their top three environmental concerns. In many cases the use of electronic technology, to aid in the reduction of paperwork, is seen as a partial solution to address this area.

Does your business participate now or have future plans for:

Reduction Re Use Recycling Material Substitution Initiatives

This question was asked to determine the involvement of business in the most common of environmental practices.

A full 88 per cent of companies indicated an active or planned recycling program. Re-use (79%), reduction (74%) and material substitution strategies (68%) (Figure Fin 14) are also in currently present or are in the plans for the majority of surveyed firms.

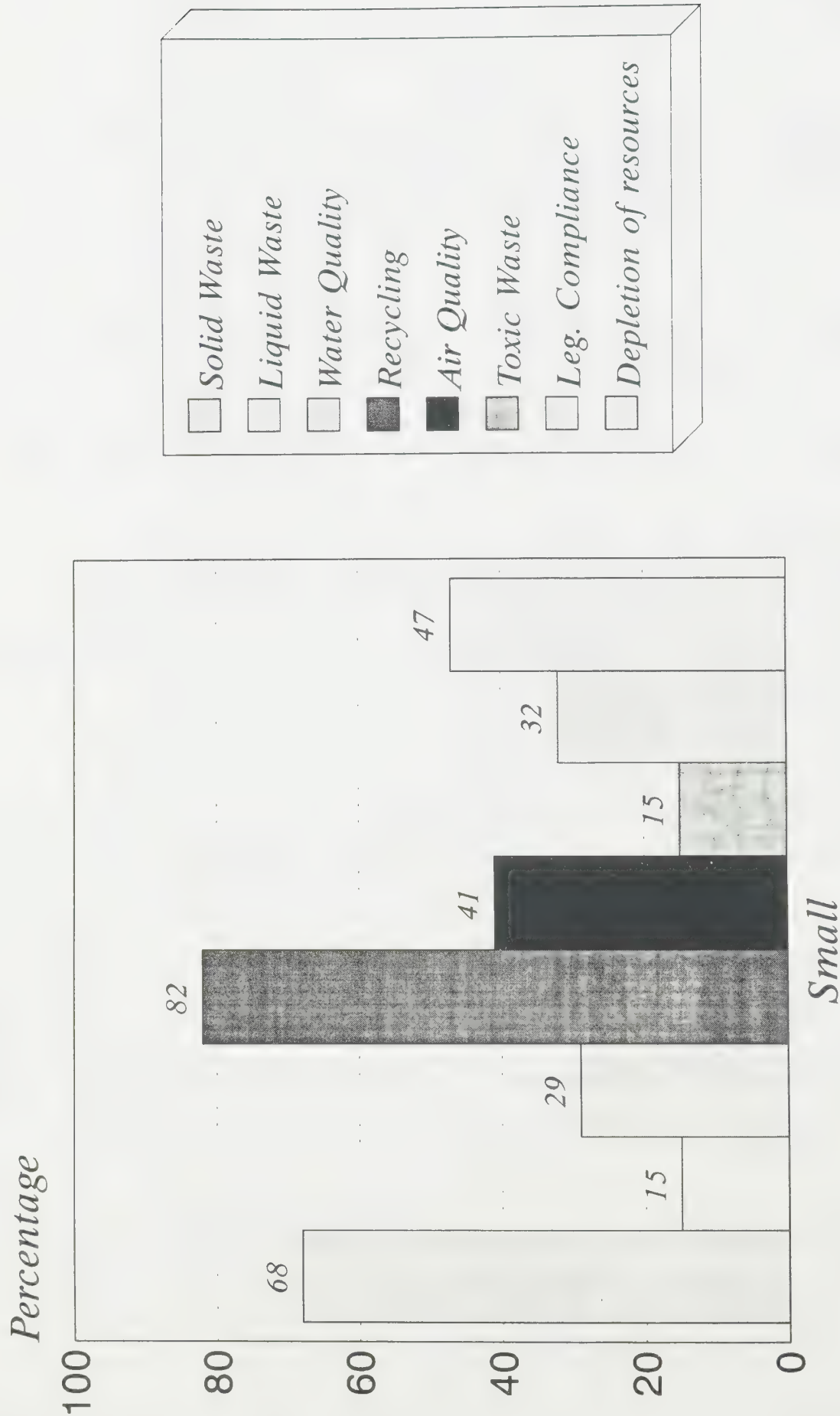
These results reflect higher levels of activity within these areas than is present in other surveyed sectors. These activities can also be easily focused on the use of paper as a primary product. Awareness of the three R's and the relative ease of incorporating their strategies may account for the greater participation rates in this sector.

Does your company require suppliers to comply with environmental practices?

This question was asked to provide further indications as to whether environmental concerns are becoming a regular part of business practice.

FIGURE FIN 13

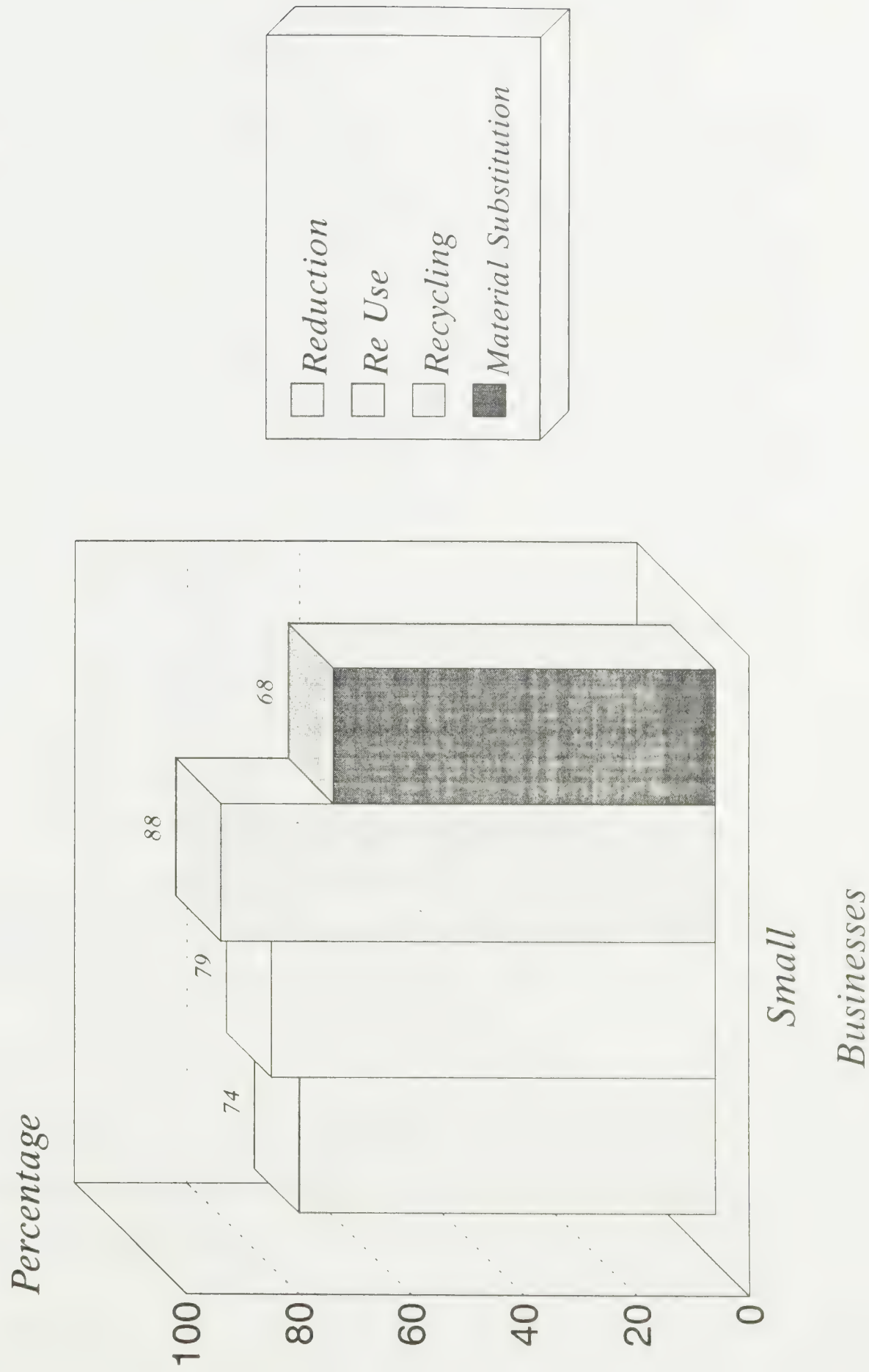
Which Of The Following Areas Of The Environment Are Of Concern In The Operation Of Your Company



Small
Businesses

FIGURE FIN 1-4

Current Or Future Business Participation In Reduction, Re-Use, Recycling & Material Substitution



There appears to be little demand on the part of financial companies to ensure their suppliers have sound environmental practices. Only 12 per cent of survey respondents indicated any requirement, 56 per cent said there were no requirements and 32 per cent were unsure (Figure Fin 15).

The financial sector, perhaps due to the nature of material it requires to do its job, ranks as the least interested of the survey respondents in requiring suppliers to comply with environmental practices.

Which of the following aspects of environmental legislation are most difficult for your business?

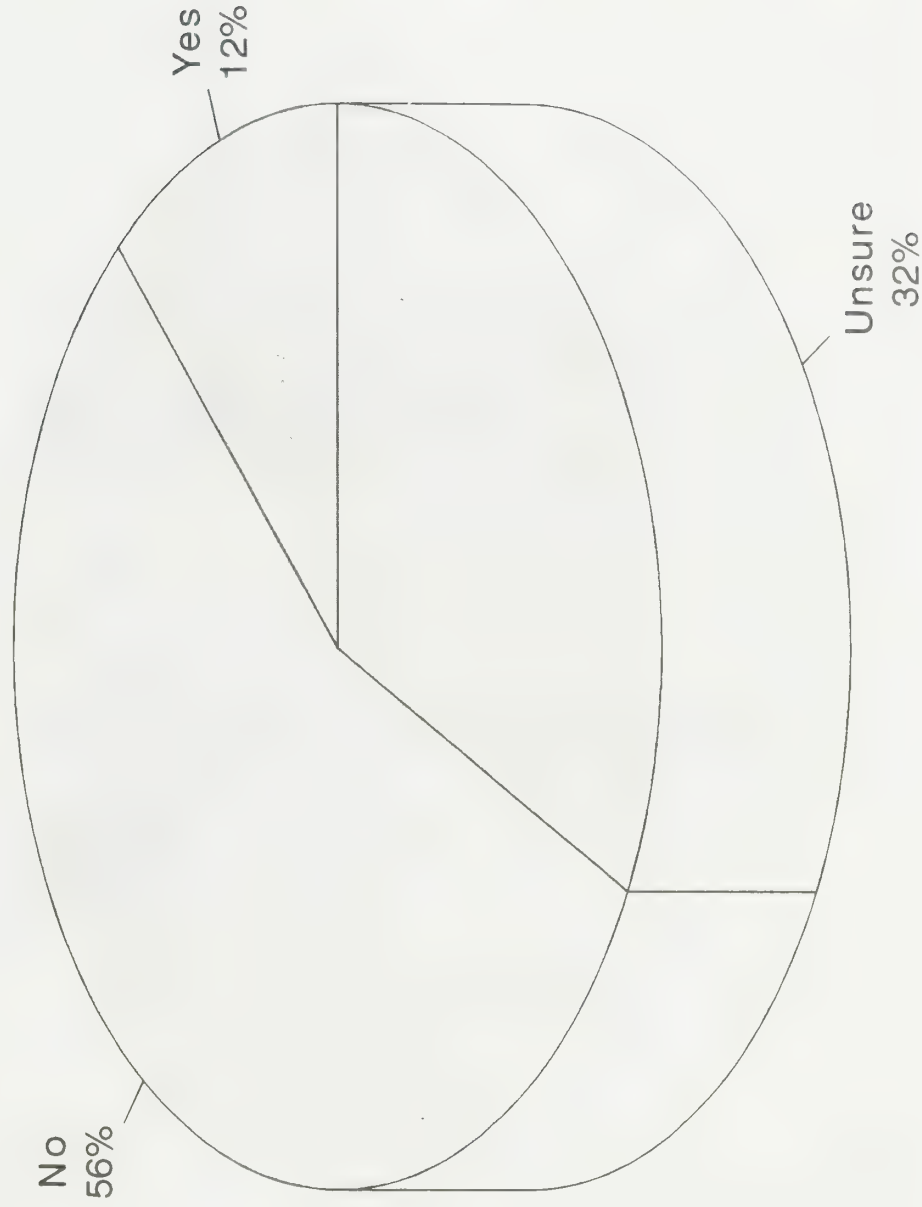
This question was asked to identify areas of compliance and compliance related issues with which business was experiencing the most trouble.

Keeping abreast of new laws proved to be the most difficult area of environmental legislation for financial companies (44%) followed by the ensuing increase in paperwork (29%). Twenty-six per cent of companies said they had no difficulties, followed by taxes (24%), increased fees (15%), inspections (12%) and the cost of compliance (12%) (Figure Fin 16).

As an industry, the financial sector had fewer difficulties with environmental legislation than any other surveyed sector. This can be accounted for by two factors: there is very little environmental legislation that directly effects the industry, and its ability to deal with information that precipitates change is high.

FIGURE FIN 15

Does Your Company Require Suppliers To Comply With Environmental Practices

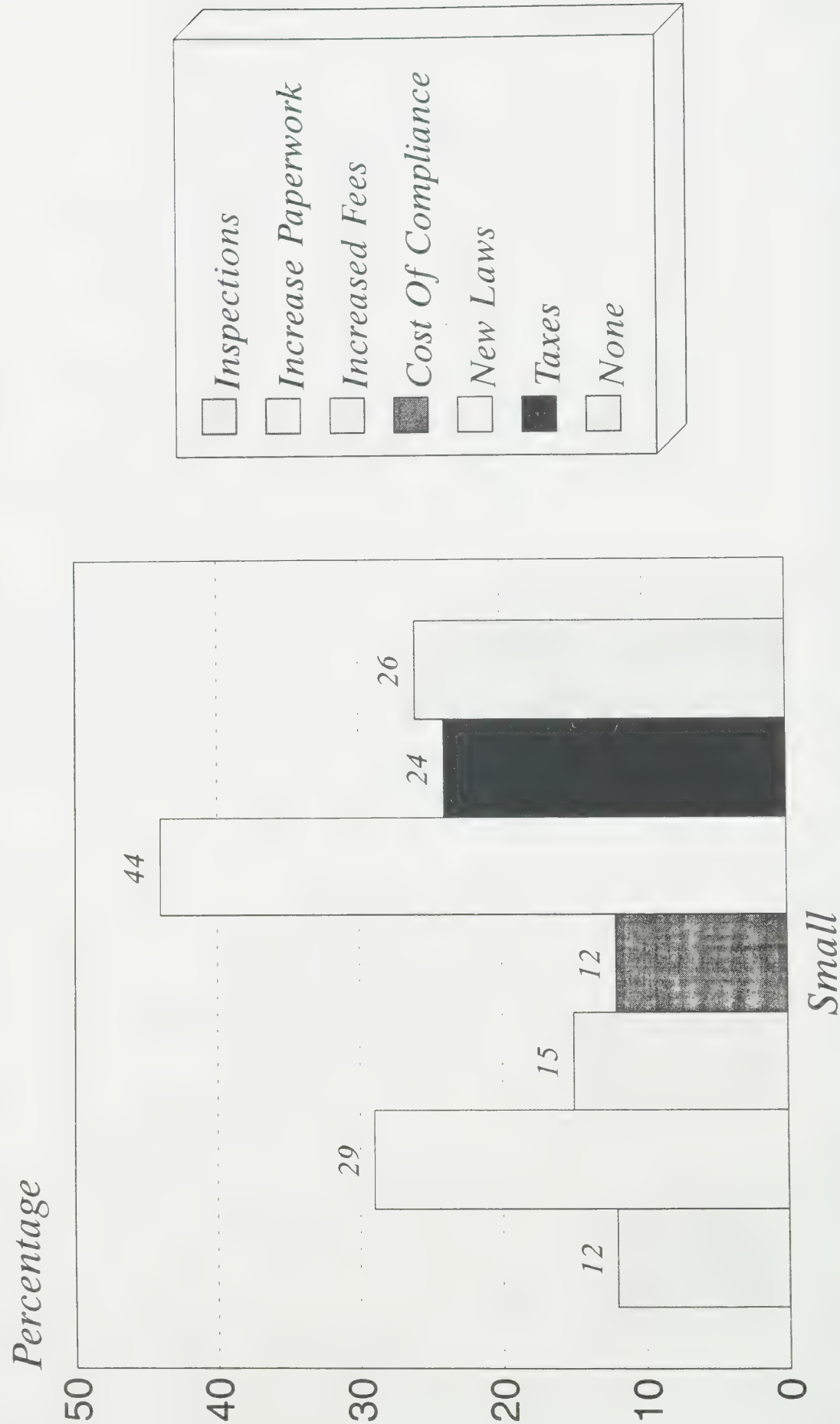


<input type="checkbox"/> <i>Yes</i>
<input type="checkbox"/> <i>No</i>
<input type="checkbox"/> <i>Unsure</i>

Small Business

FIGURE FIN 16

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult In Your Business



What type of environmental training do you feel would benefit your company most?

This question was asked to determine the immediate and specific skill requirements of business in areas relating to the environment. Twelve choices were given.

Half of the companies surveyed selected disposal alternatives as it's number one training need. Material substitution (44%), financial planning (44%), legislative compliance (35%), and technological innovations (35%) were also cited as skill areas that need addressing, while air quality (21%), emissions, testing procedures and gas recovery (6% each) (Figure Fin 17) were not deemed to be as important.

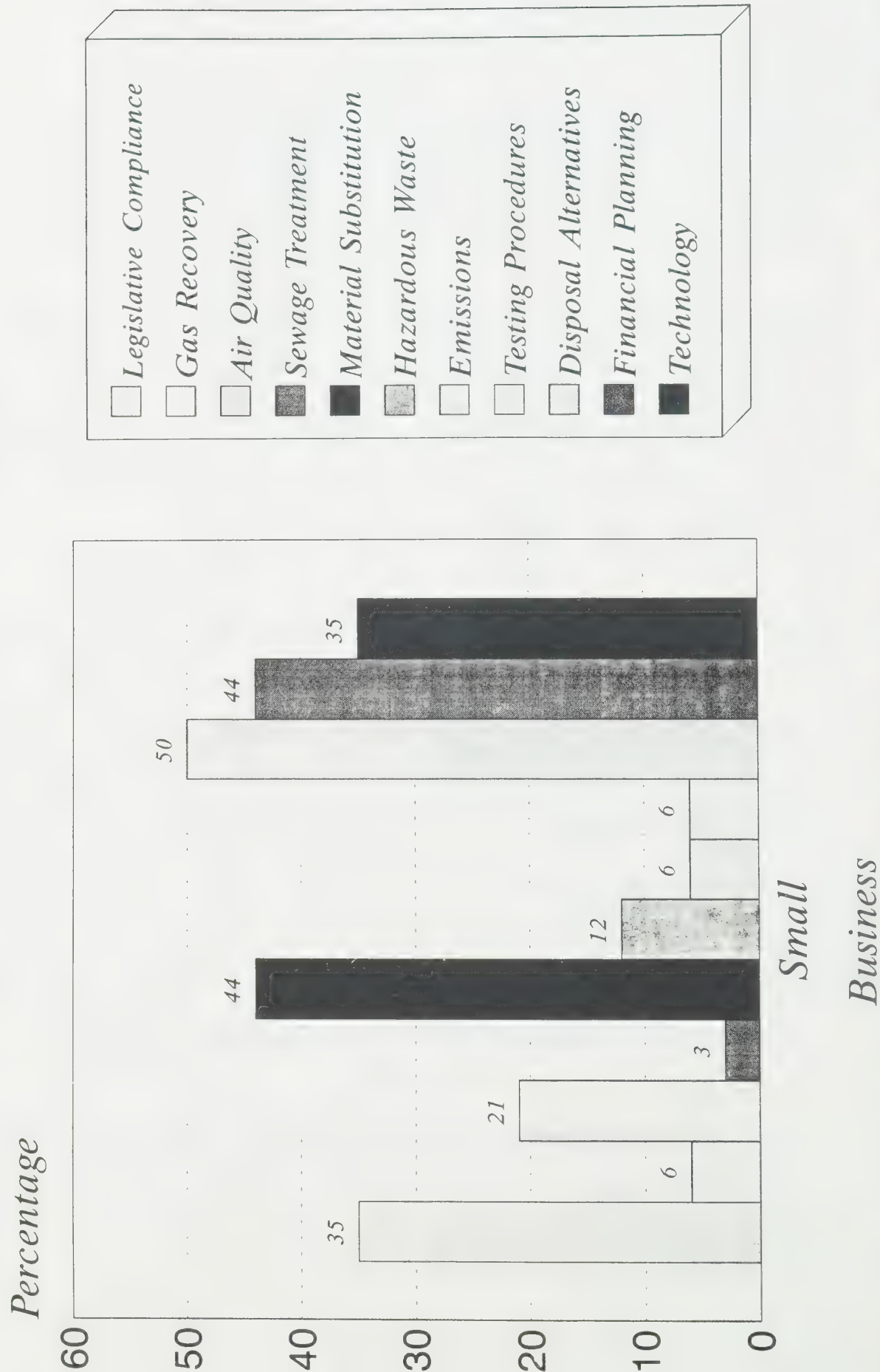
Despite the limited environmental impact the financial sector views itself as having there is a strong demand for environmental training. The greatest demand deals primarily with the handling of material (likely paper) although there is also a large demand for information surrounding the environment (legislative compliance, financial planning). With lending institutions and other financial organizations becoming accountable for investments that may have an environmental liability, such as the purchase of contaminated lands, training in these areas is increasing in importance. In some cases the financial organization will pass on the responsibility to business, particularly in cases where money is being borrowed, to show due environmental diligence.

What is the largest barrier to environmental training of your staff?

This question was asked to determine what was preventing business from going forward with training that it needs. Eight options were provided.

FIGURE FIN 17

What Type Of Environmental Training Do You Feel Would Benefit Your Company The Most



Assessing needs (53%), a lack of information about training programs (53%) and a lack of technical knowledge (41%) were viewed as large factors in preventing training while financial resources (29%), inability to give time off for training (24%), the unavailability of training (12%), employee resistance to training (9%) and a lack of management support (6%) created fewer barriers (Figure Fin 18). Twelve per cent of respondents indicate they perceived no barriers.

Unlike other surveyed sectors, a lack of information, as opposed to a lack of time or money, was seen as a greater impediment to environmental training, although an information void was also perceived as a large barrier in other sectors. This indicates a need for a new approach to disseminating information and underscores the necessity of a clearer communication strategy when new environmental legislation is passed.

When involved in training which type of format do you prefer?

This question was asked to determine what training times most suited business needs. Six options were presented.

Seminars/workshops (79%) and on-site training (56%) were viewed as the most preferred format for taking training (Figure Fin 19). Half week courses (32%), evening classes (26%) and intensive half a day per week courses (21%) were less preferred. Full time training in school (3%) was not seen as a viable option.

Do you foresee a need to hire graduates from an environmentally related course?

This question was asked to determine which businesses were breaking out environmental

FIGURE FIN 18

What Is The Largest Barrier To Environmental Training For Your Staff

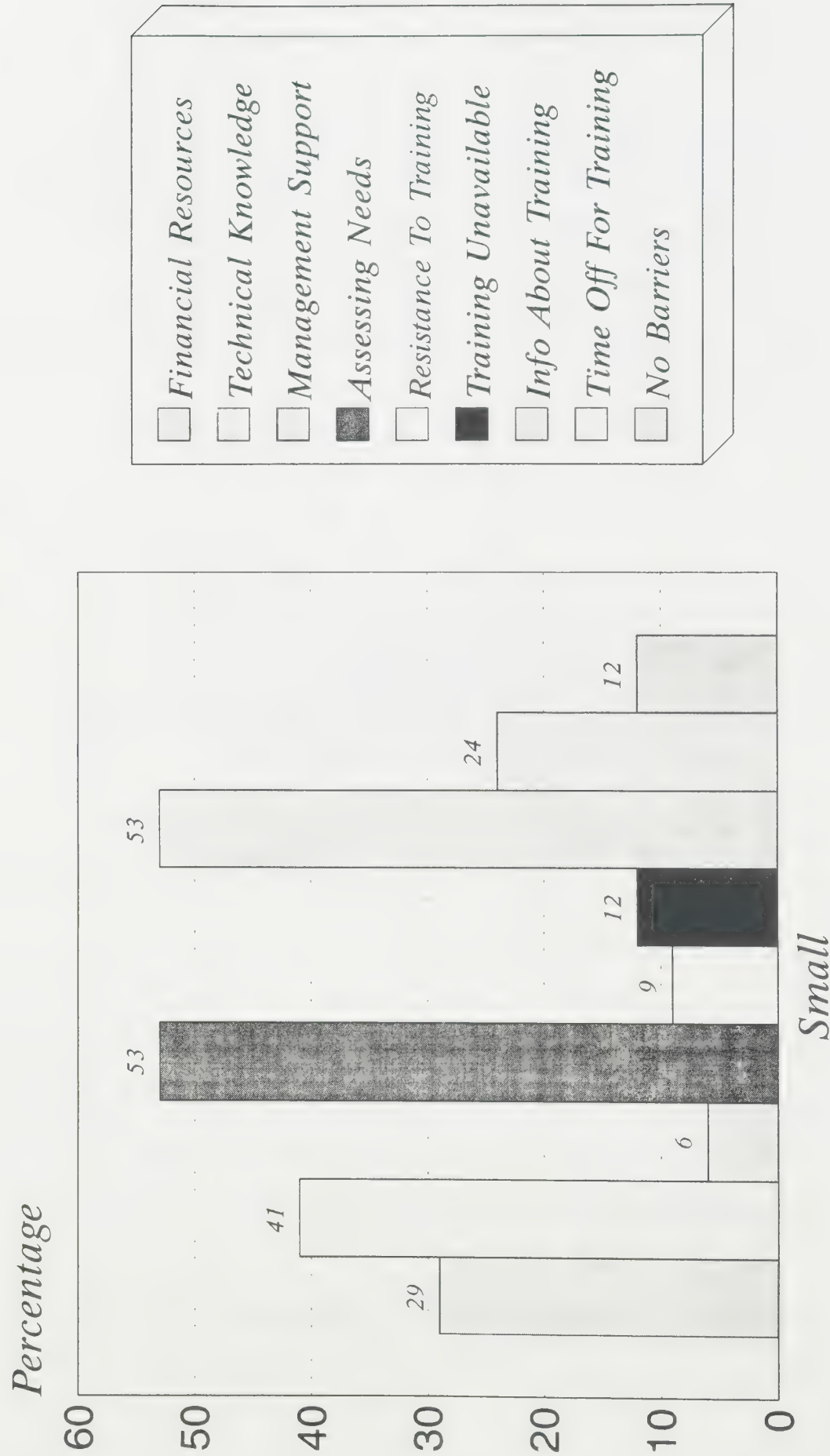
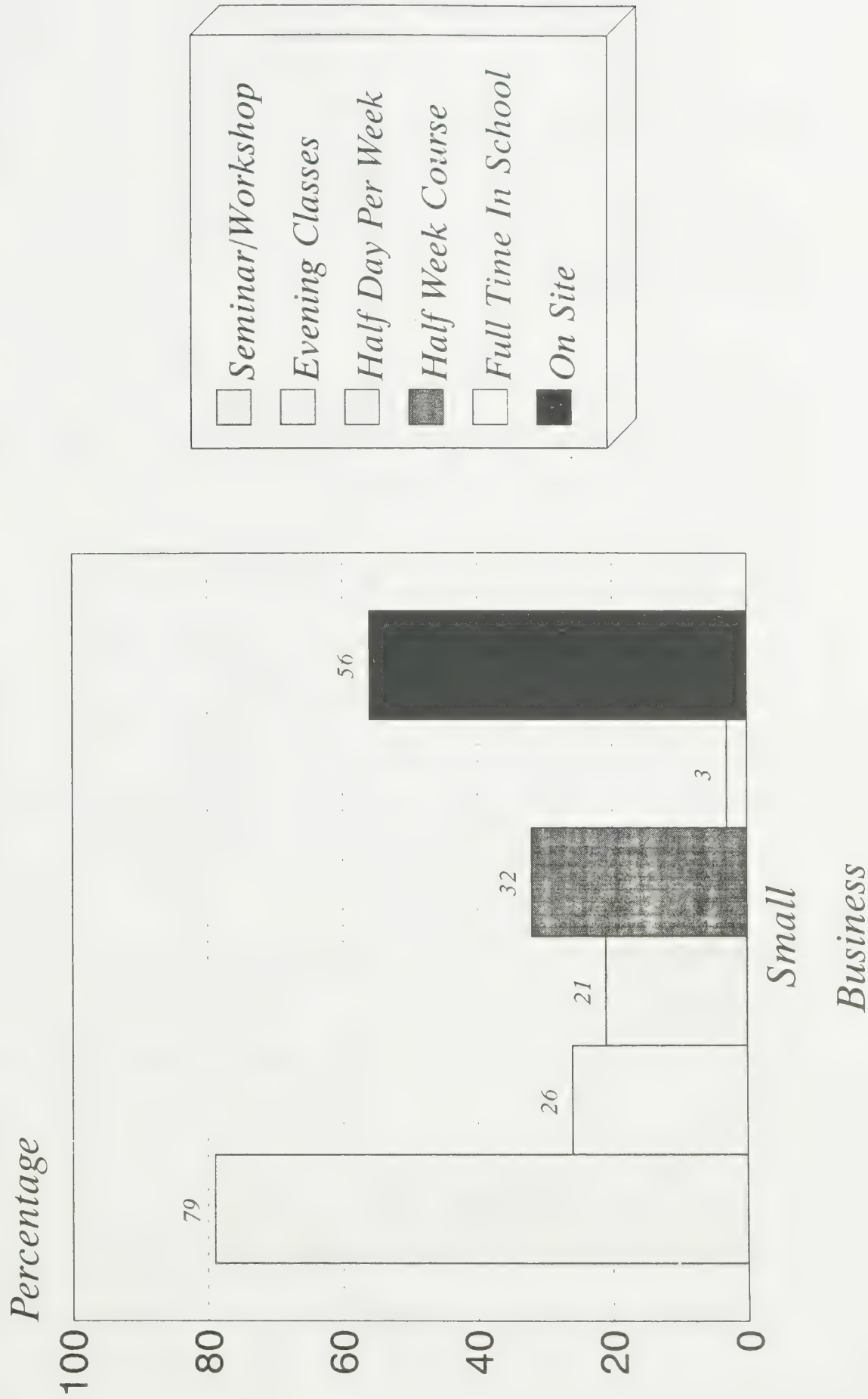


FIGURE FIN 19

When Involved In Training Which Type Of Format Do You Prefer



responsibilities as distinct occupations.

No organization within the financial sector foresaw a need to hire an environmental specialist (Figure Fin 20).

As in other sectors, a lack of need for a person with distinct skills related to the environment supports the need for integrating sustainable development practices into each occupation within the environmental sector.

Did you find the information we provided helpful?

Did it influence any of your answers after it was given to you?

These questions were asked after tranSKILLS conducted and presented research into the environmental impact on the industry as determined by environmental experts. We were attempting to determine whether new ways of collecting labour market information would enhance business without adversely affecting survey results.

Eighty-eight per cent of all companies surveyed indicated the information provided was helpful or somewhat helpful while 12 per cent indicated it was of no help (Figure Fin 21). Only three per cent of survey respondents indicated it influenced their answers, 12 per cent said it somewhat influenced their answers while 85 per cent said it had no influence (Figure Fin 22).

Despite the information base of the financial sector the large majority of respondents were helped by the information provided. What appears to be lacking is an effective way

FIGURE FIN 20

An Employer Foreseeing A Need To Hire Graduates From An Environmentally Related Course

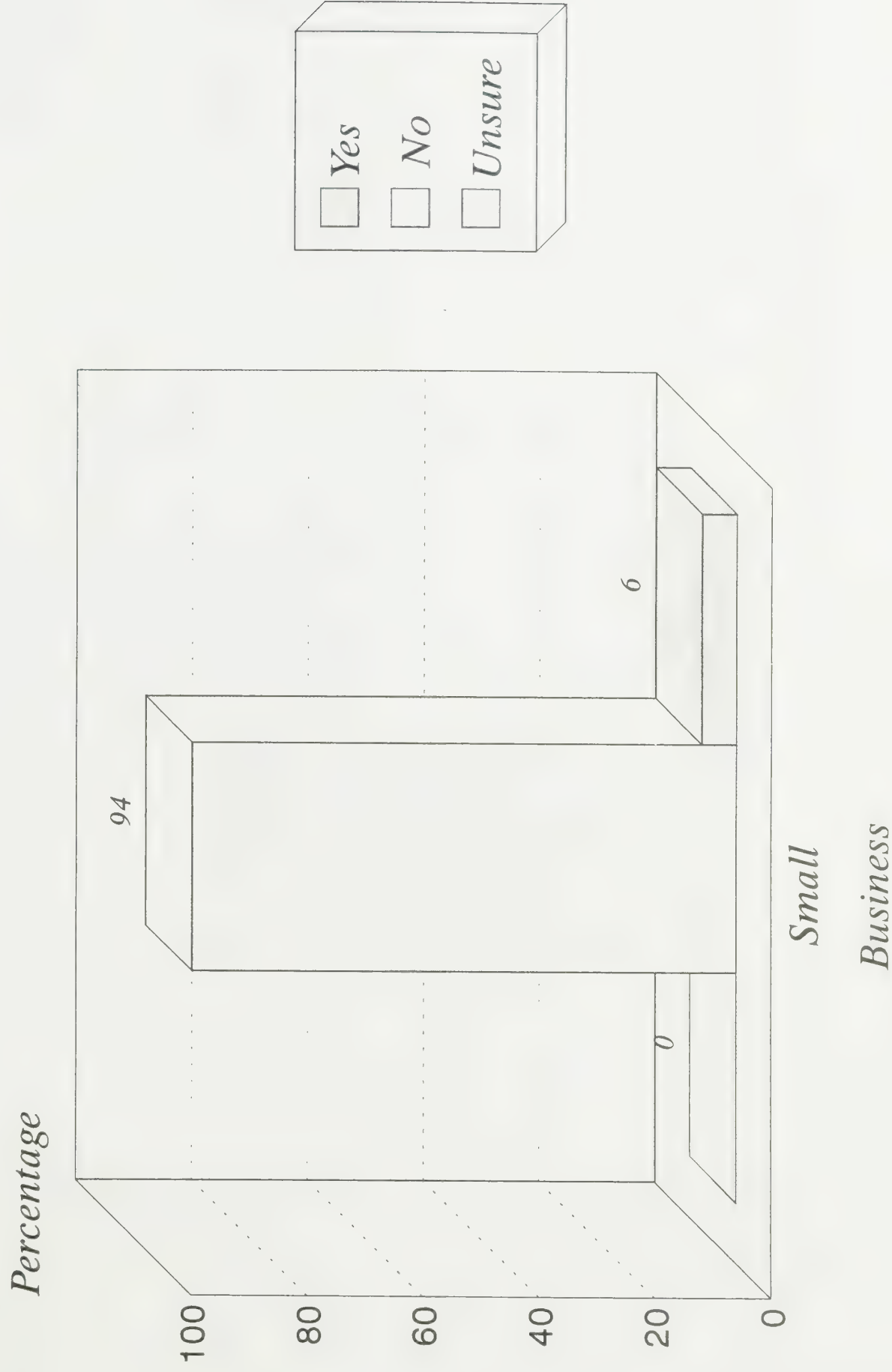


FIGURE 21

Did The Information Sheet Provided Helpful In Any Way

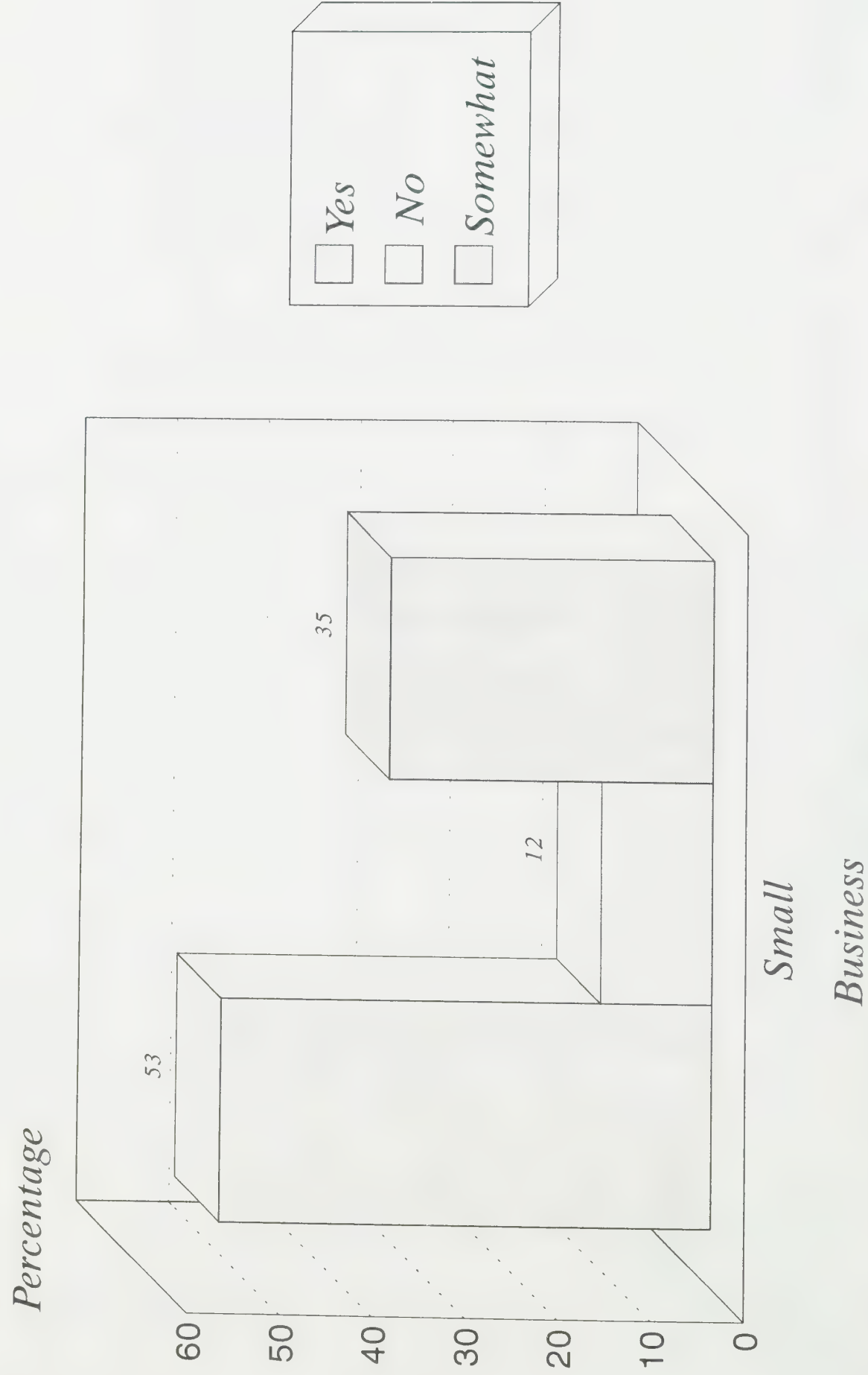
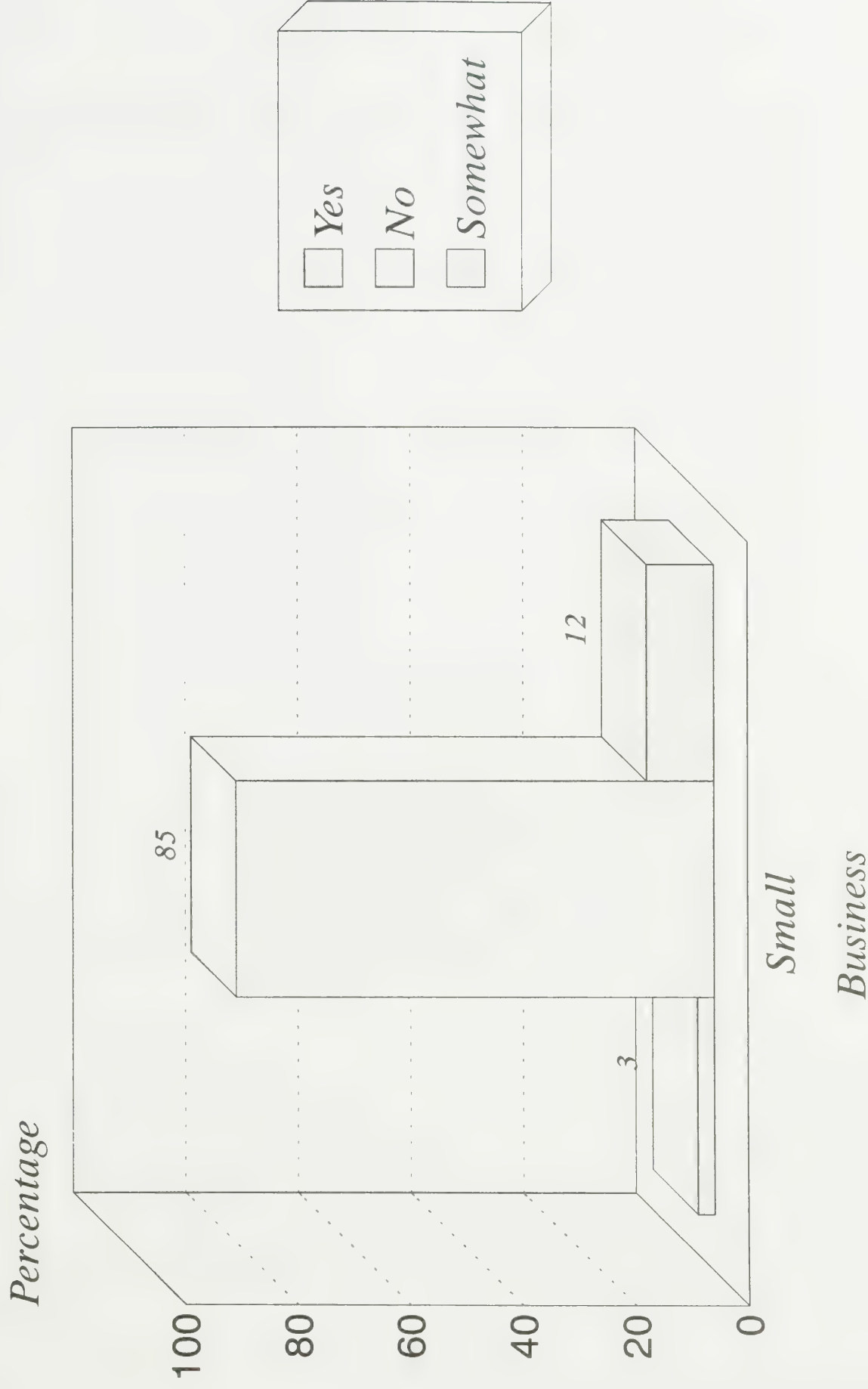


FIGURE FIN 22

Did It Influence Any Of Your Answers After It Was Given To You



of getting information out. This supports the use of a personal survey as a source of information exchange where both parties benefit. Concerns that providing information effects survey results do not pan out as indicated by the low number of respondents who indicated they were influenced by the information provided.

Heating, Refrigeration and Air Conditioning

tranSKILLS interviewed 30 owners/managers of local heating, refrigeration and air conditioning companies representing eight per cent of the total survey population of 317 interviews. The majority of surveyed companies operate their businesses in the residential sector. The predominant number of these surveys, 26 of 30 or 87 per cent were with small companies employing between one and 20 people. Three surveys were with medium sized companies employing 21-99 workers and one survey was with a firm employing over 100 people. The medium and large size survey results have been combined. All surveys were conducted in person.

Job Title: Person on staff who perform environmental tasks.

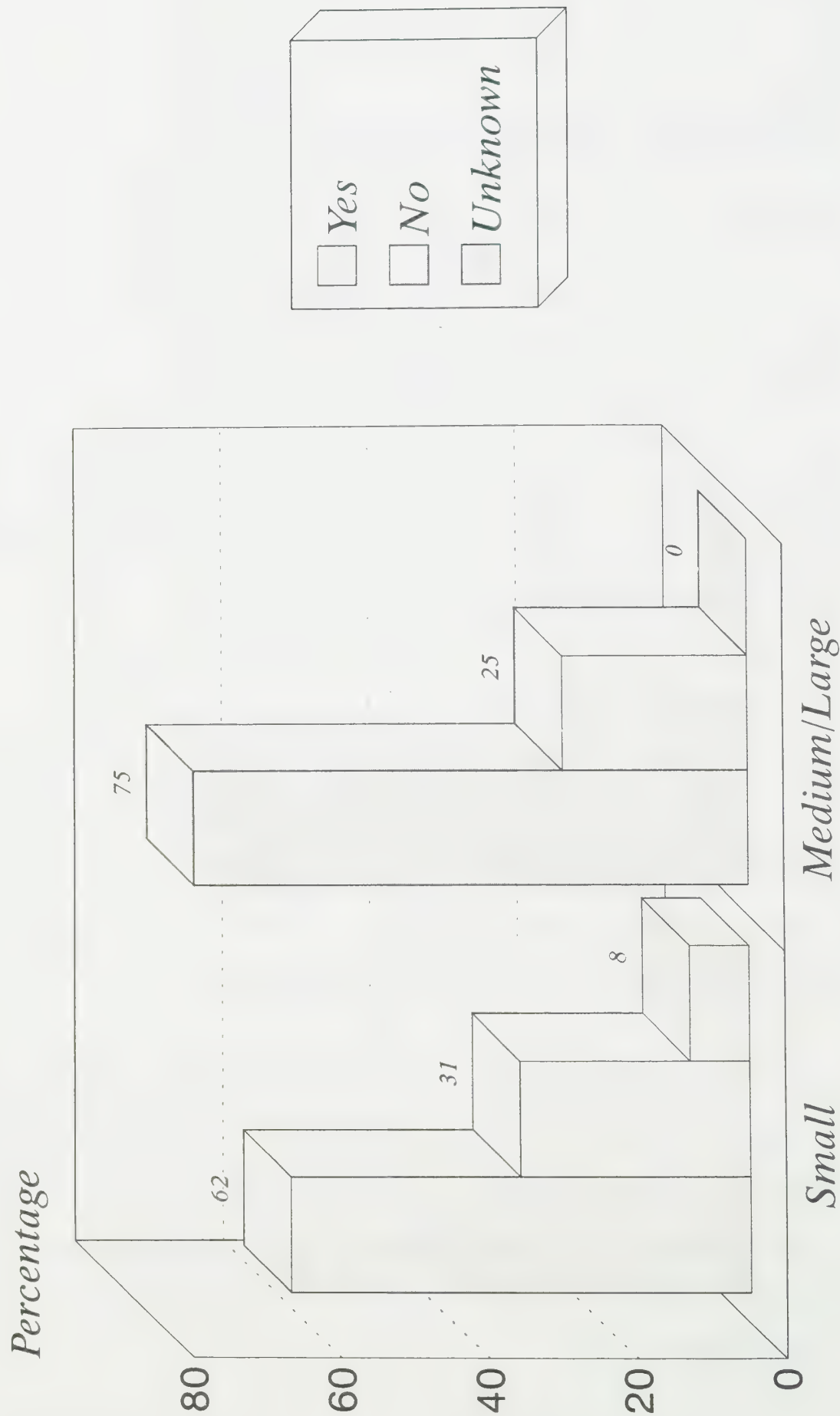
Does your company have someone on staff in charge of environmental issues?

These questions were asked to determine if companies were assigning specific environmental duties to workers and whether someone was ultimately responsible for the environment within a workplace. We hoped to determine if there was one occupation to which the responsibility of environmentally related tasks fell.

The chore of performing environmental tasks fell on many occupations within the heating, refrigeration and air conditioning sector. Primarily it was the responsibility of the job site personnel, whether a sheet metal mechanic, refrigeration mechanic, gas fitter or foreman. Sixty-two per cent of small companies indicated they had someone in charge of environmental issues while 75 per cent of medium companies indicated the same (Figure HRAC 1).

FIGURE HRAC 1

Does Your Company Have Someone Who Is In Charge Of Environmental Issues



Although the majority of firms have someone directly responsible for environmental issues, the duty of carrying out environmental tasks is spread throughout the workforce. As environmentally related jobs fall across a series of occupations and trades, these results indicate a need for the integration of environmental practices into trades training within this sector.

How many people overall have been hired in the last year?

How many people do you need to hire today?

Have you had any difficulty in hiring?

Do you anticipate any new hires over the next 12 months due to growth?

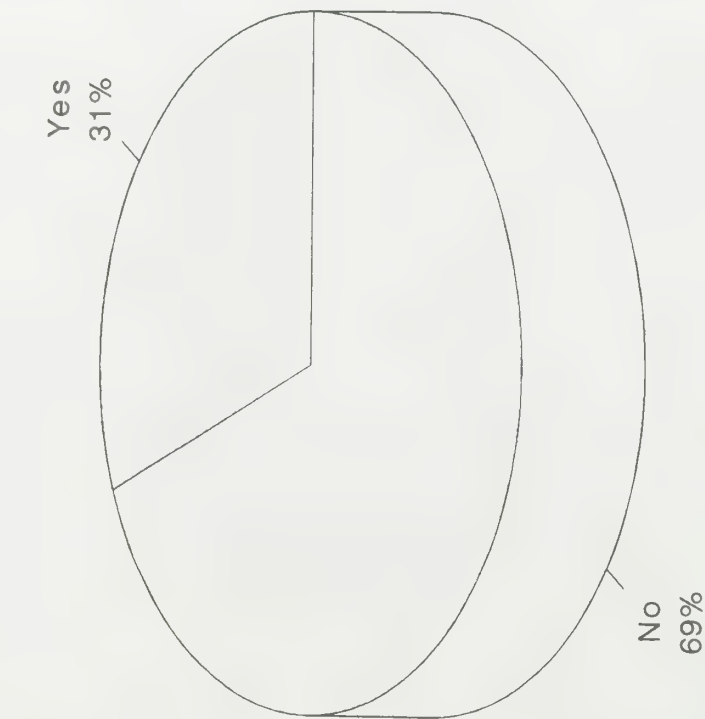
Do you anticipate any new hires over the next 12 months due to staff replacement?

These questions, which appeared in different parts of the survey, have been placed together as they reflect the past and future growth of the sector surveyed. They also assist in anticipating any future needs and potential difficulties in meeting those needs.

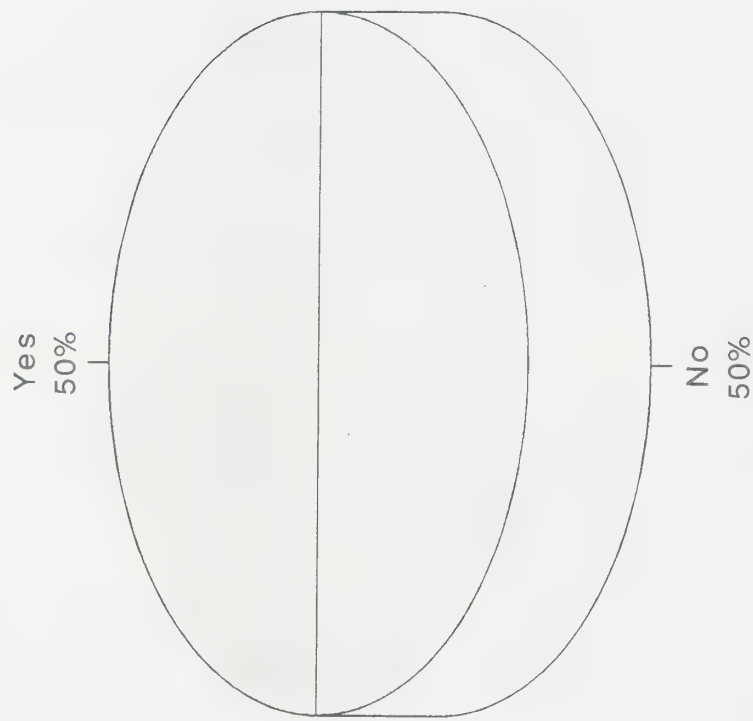
A total of 79 people were hired within this sector last year with 50 jobs being created by large business, 10 by medium sized companies and 19 by small operations. Fourteen to 19 people were indicated as being needed at the time of the survey interview, 10 to 15 by large business and four by small business. No company experienced any difficulty in hiring. Over the next year 31 per cent of small companies and fifty per cent of medium and large firms anticipate creating new jobs through growth (Figure HRAC 2), while no small firms and only 25 per cent of medium-large companies predict they will have to hire people to replace departing staff (Figure HRAC 3).

FIGURE HRAC 2

Do You Anticipate Any New Hires Over The Next 12 Months Due To Growth



Small Business

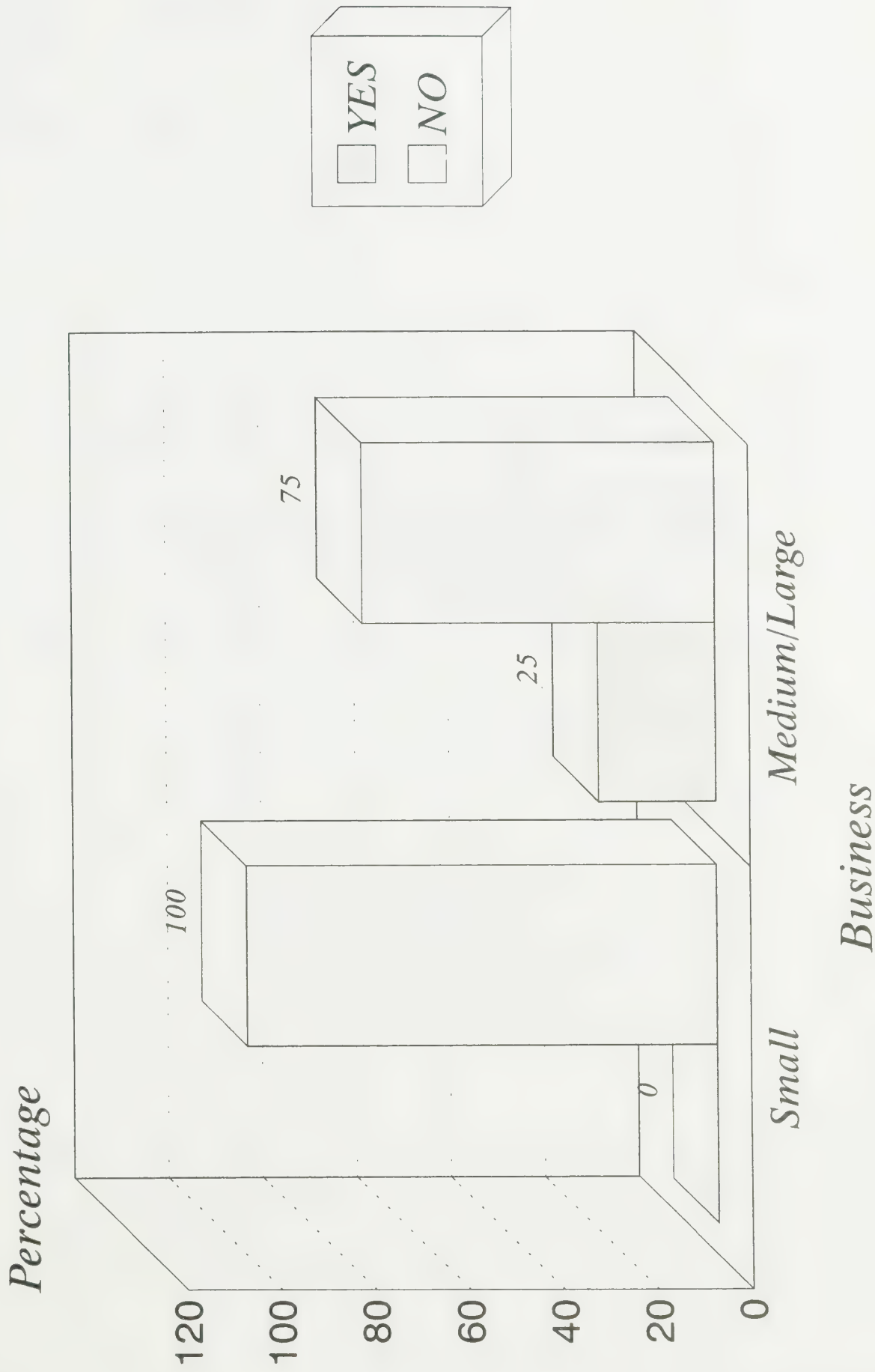


Medium/Large Business

<input type="checkbox"/> Yes <input type="checkbox"/> No
--

FIGURE HRAC 3

Do You Anticipate Any New Hires Over The Next 12 Months Due To Staff Replacement



One large national company accounted for the greatest job growth within this sector, although the numbers within the small business sector were tempered by one firm losing 25 people, otherwise, 17 small companies would have accounted for the creation of 44 new jobs while 11 small companies experienced no change.

How many people on your staff require skills upgrading?

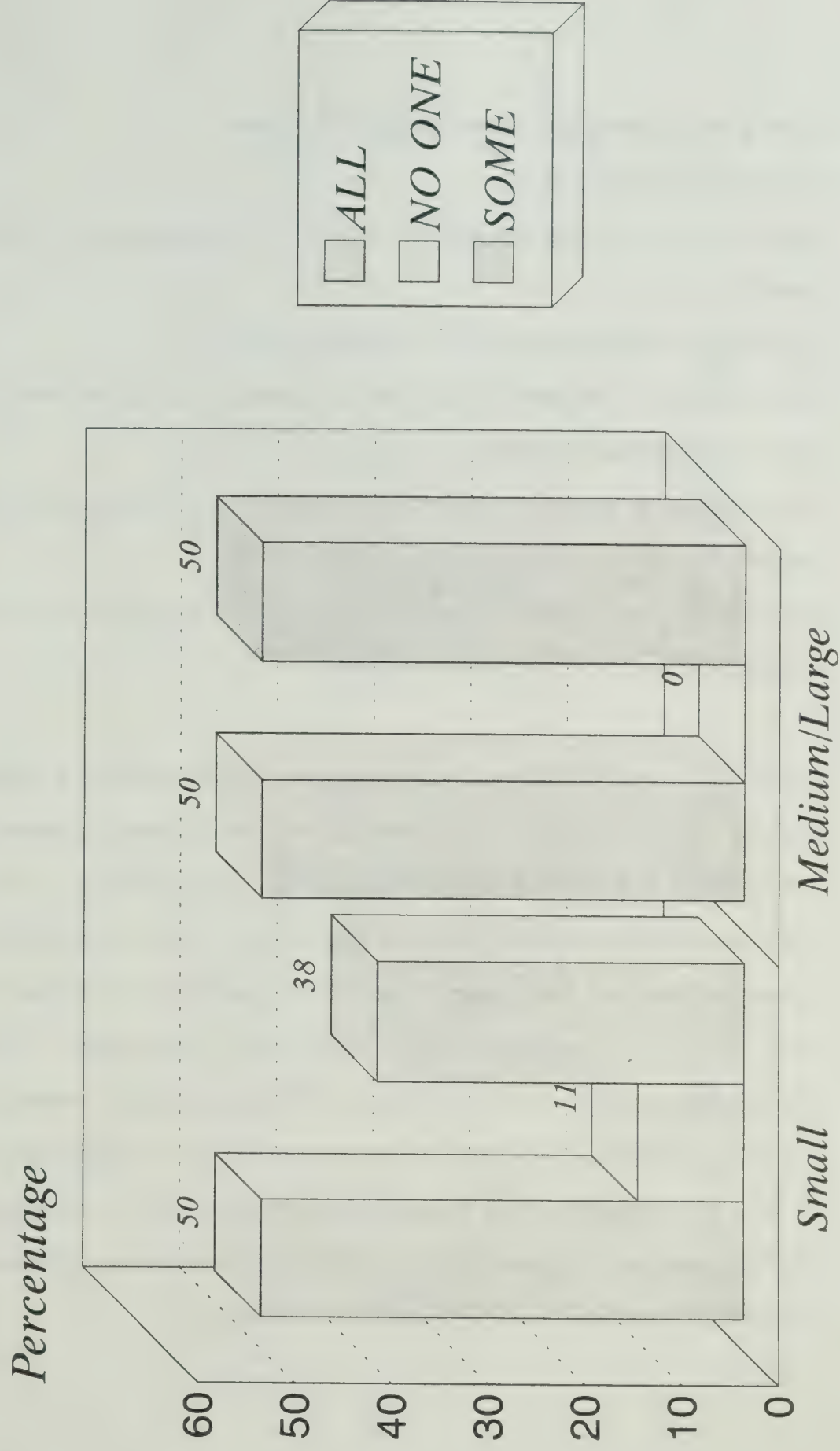
What are the skills your staff need in order to meet the current and future needs of your industry?

These questions were asked to determine the extent and type of training required?

A full 90 per cent of companies asked indicated that either all or some of their staff required skills upgrading. Broken down, only 12 per cent of small companies indicated no one needed training, 50 per cent said all of their staff did and 38 per cent claimed some needed upgrading (Figure HRAC 4). Half of the medium-large companies indicated all of their staff needed training while the other half indicated at least some required new skills. Within the industry there is a large demand for the skills relating specifically to the technical end of the trade. Fifty-three per cent of all skill requirements listed apply directly to the installation, repair or understanding of heating, refrigeration or air conditioning systems. Computer skills and customer relation skills were also common. The high degree of specific trades training required within this sector, predominantly residential and small business, poses a series of questions. Why is the need higher here than in other surveyed trades? What makes this portion of the industry unique? What is being done by the industry and by training systems to address the need?

FIGURE HRAC 4

How Many People Of Your Staff Require Skills Upgrading



Do you plan on introducing new equipment next year?

What kinds of equipment?

What impact will this equipment have on the skill requirements of the occupations affected?

Do you plan on introducing new processing methods?

Can you describe the impact these new processing methods will have on the skill requirements of those affected?

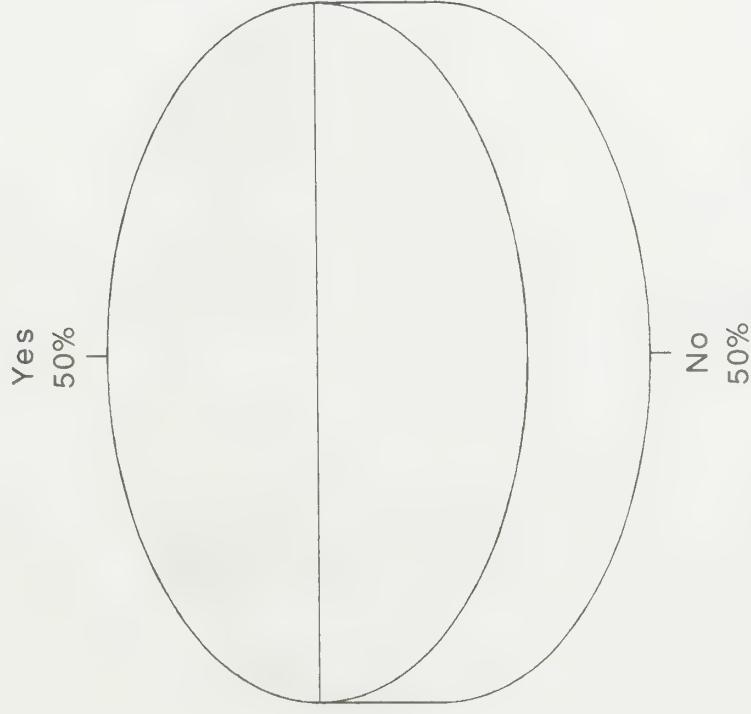
To what extent do you expect technology to impact on your business in the next 2 to 3 years?

These questions were asked to determine the extent of change in each sector and the awareness of the effects that change will have.

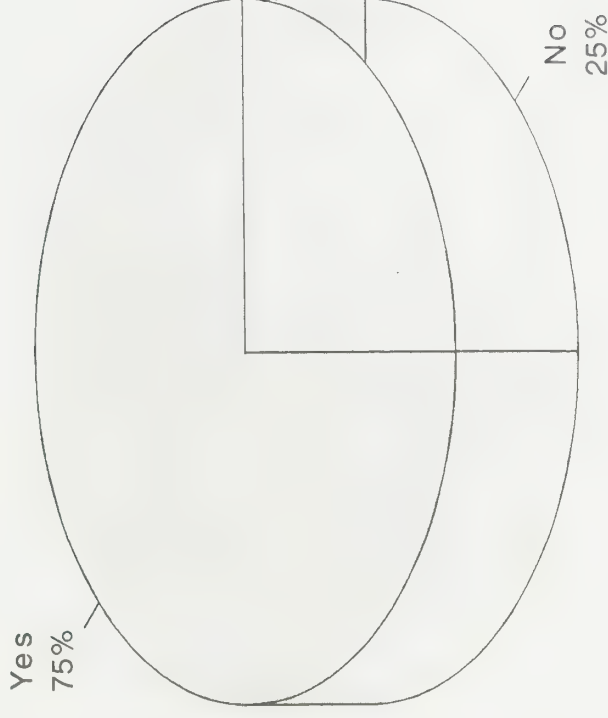
Overall, 53 per cent of surveyed companies plan on introducing new equipment in the upcoming year (Figure HRAC 5) while only 13 per cent indicate the planned introduction of new processing methods (Figure HRAC 6). Eighty-three per cent predict the introduction of new technology will have a moderate to very substantial impact on their business over the next two to three years while 17 per cent are uncertain of the impact (Figure HRAC 7). These results, again, raise a number of questions. Why is there no corresponding increase in the introduction of new processing methods when new equipment is introduced? Is there training being provided on new equipment and who is providing it? If the training is being supplied by an equipment manufacturer is there room for generic and transferable skills? What role could training institutions play in linking the introduction of new equipment to new processes?

FIGURE HRAC 5

Do You Plan On Introducing New Equipment Next Year



Small Business

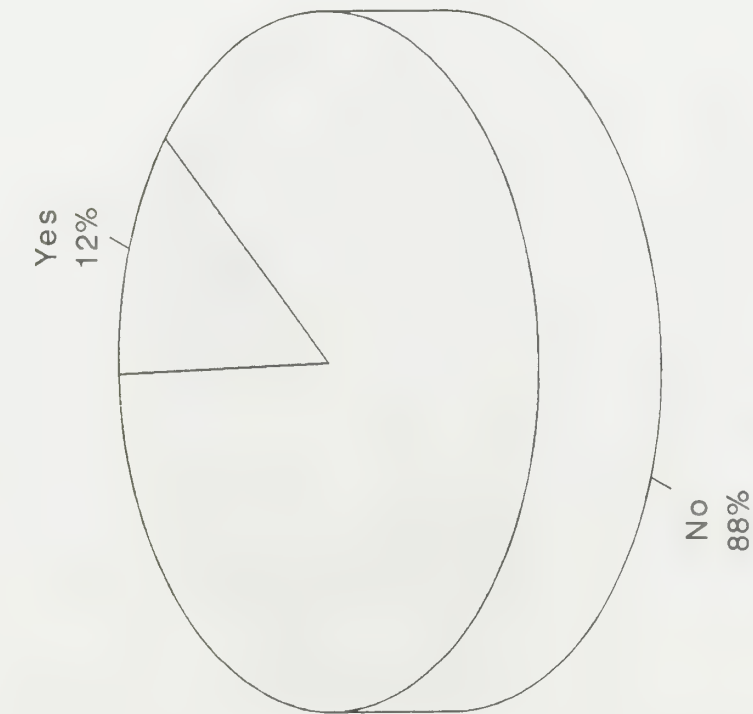


Medium/Large Business

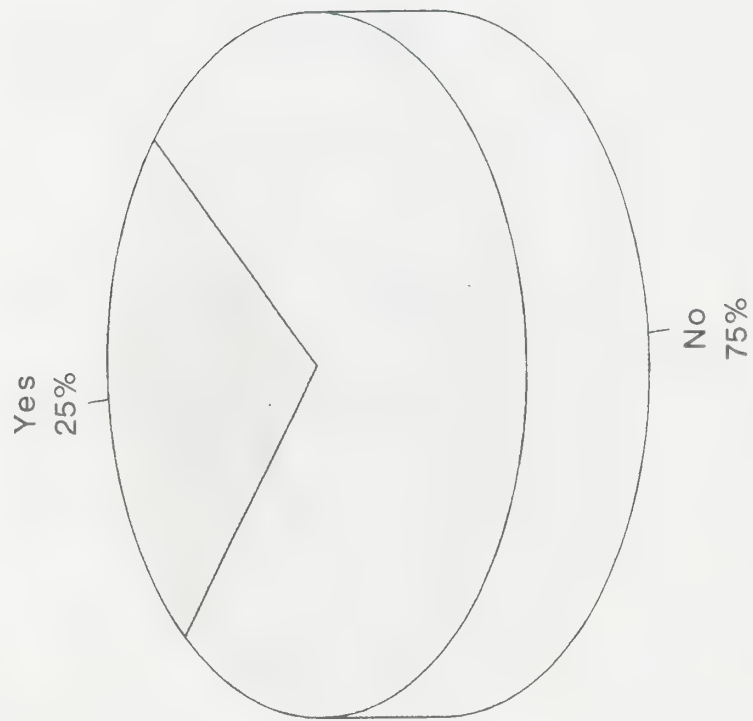
☐ Yes ☐ No

FIGURE HRAC 6

Do You Plan On Introducing New Processing Methods



Small Business



Medium/Large Business

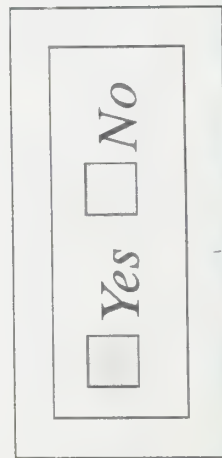
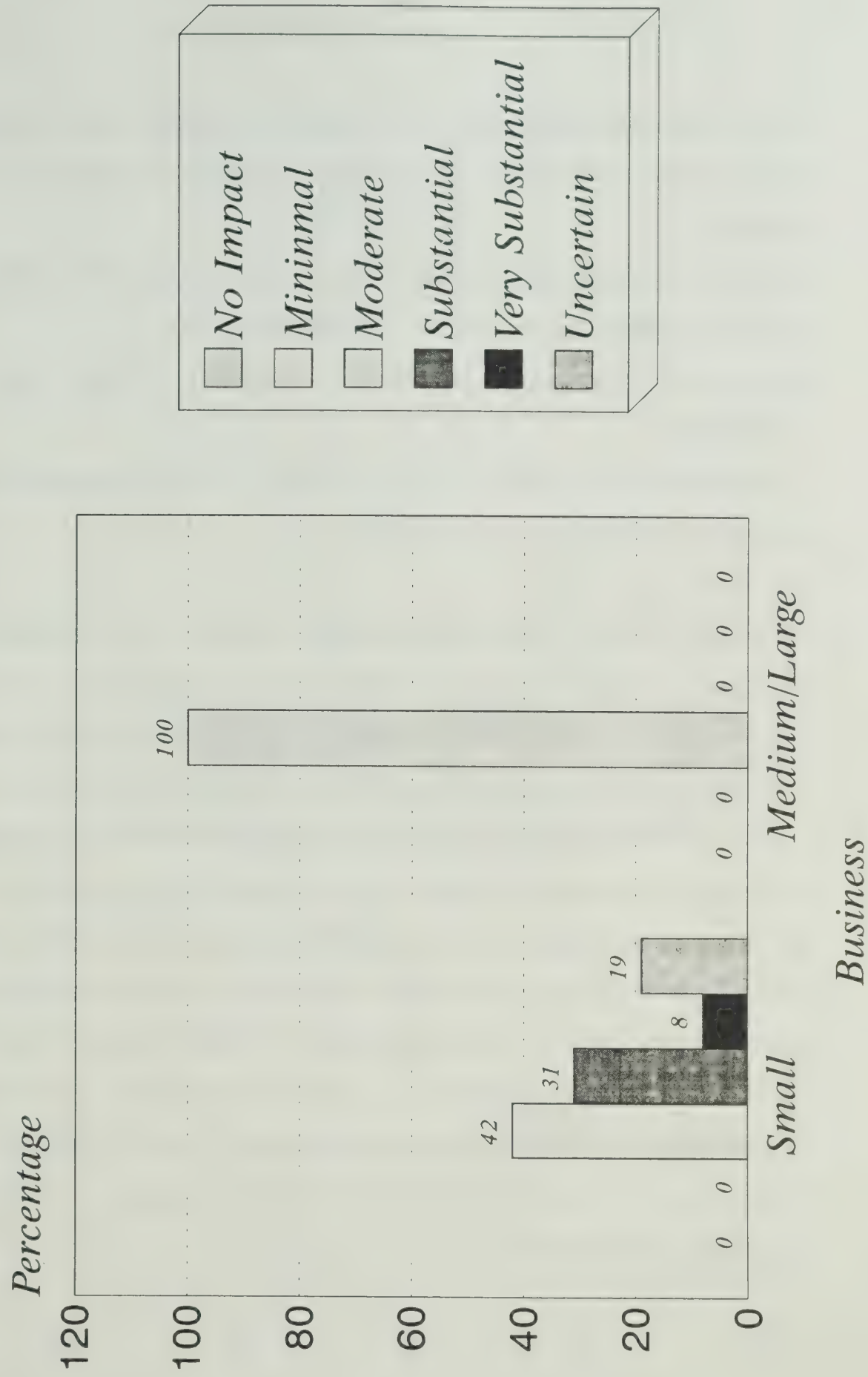


FIGURE HRAC 7
Expected Technology Impact On Businesses Over The Next 2 To 3 Years



Is your business currently regulated by an environmental government department?

Do any of your staff require environmental certification to perform their jobs at present?

Are any of your staff able to identify critical functions related to the environment?

Do you currently train your staff on environmental issues?

Have any of your employees attended seminars or courses related to the environment?

These questions were asked to determine the degree of business awareness and response regarding the environment.

Sixty-three per cent of all surveyed companies were aware they were regulated by an environmental branch of government, 30 per cent indicated they weren't and seven per cent were unsure (Figure HRAC 8). Eighty per cent of small business indicated their staff did not require environmental certification to perform their jobs, while 20 per cent said some staff did. Seventy-five per cent of the medium-large business respondents also indicated environmental certification was not required, the rest were unsure (Figure HRAC 9). Eighty-eight per cent of small companies and all of the medium-large operations indicated they had staff able to identify critical functions (such as containing gases) related to the environment (Figure HRAC 10) while 77 per cent of small firms and all of the medium-large companies were currently training staff on environmental issues (Figure HRAC 11). Half of the small companies and 75 per cent of the medium-large companies indicated they had previously sent workers to seminars or courses relating to the environment (Figure HRAC 11a).

FIGURE HRAC 8

Is Your Business Currently Regulated By An Environmental Government Department

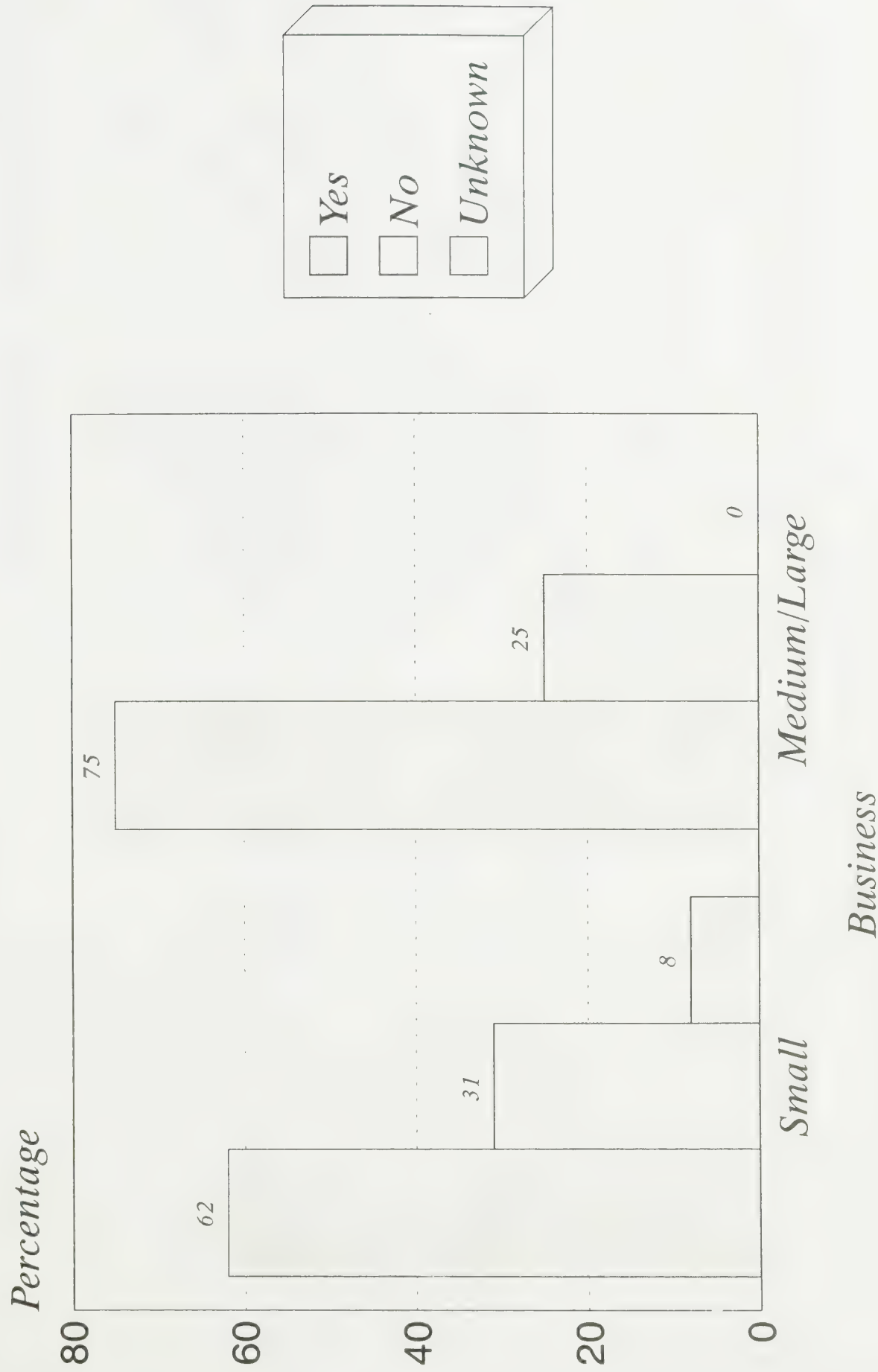
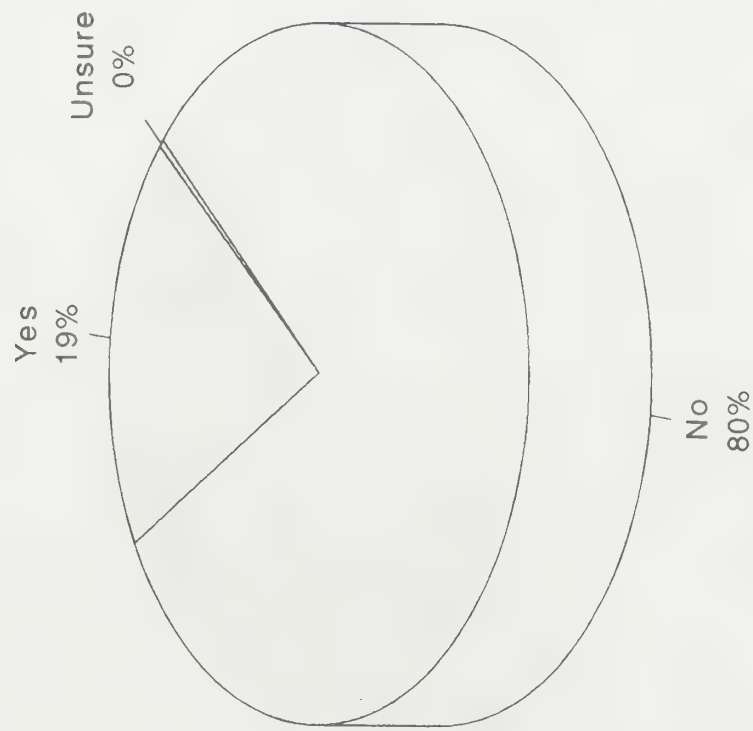
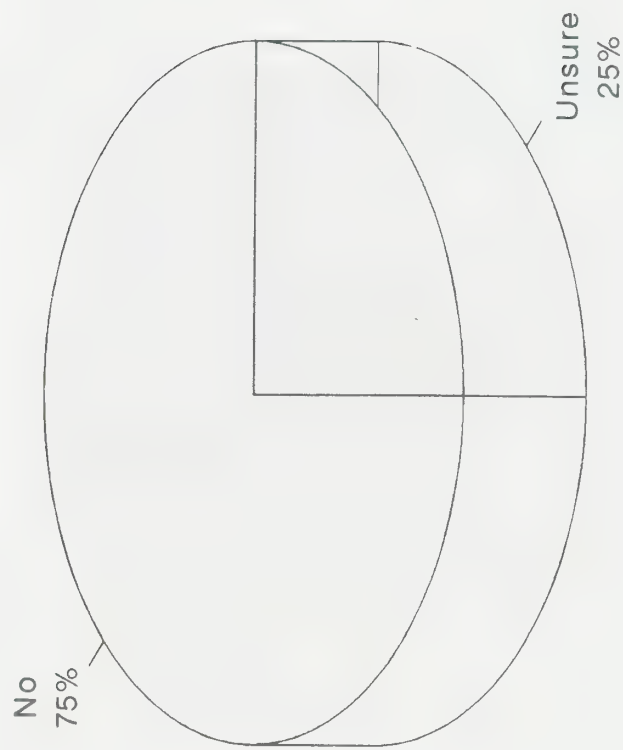


FIGURE HRAC 9

Do Any Of Your Staff Require Environmental Certification To Perform Their Job



Small Business

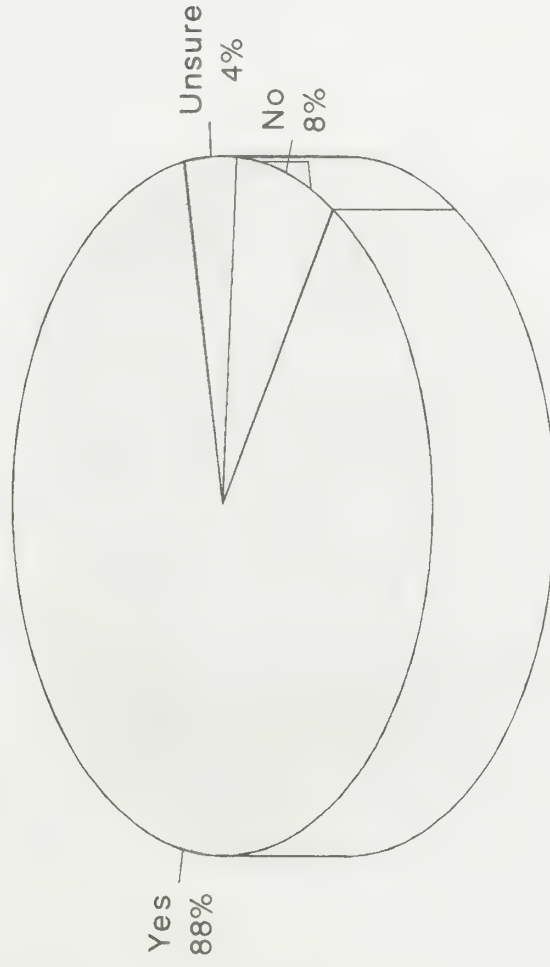


Medium/Large Business

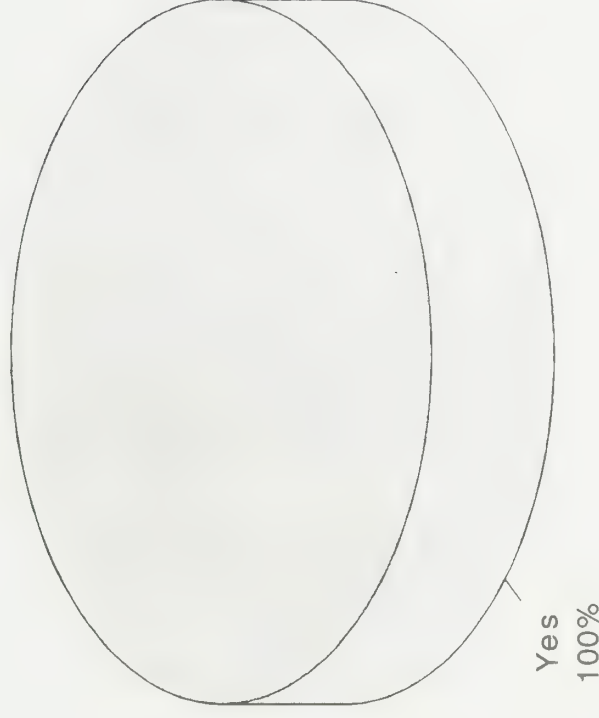
☐ Yes ☐ No ☐ Unsure

FIGURE HRAC 10

Are Any Of Your Staff Able To Identify Critical Functions Related To The Environment



Small Business

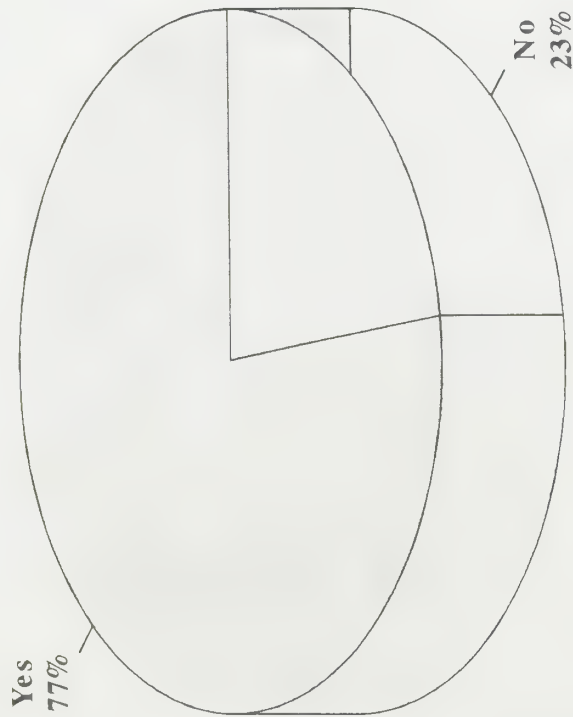


Medium/Large Business

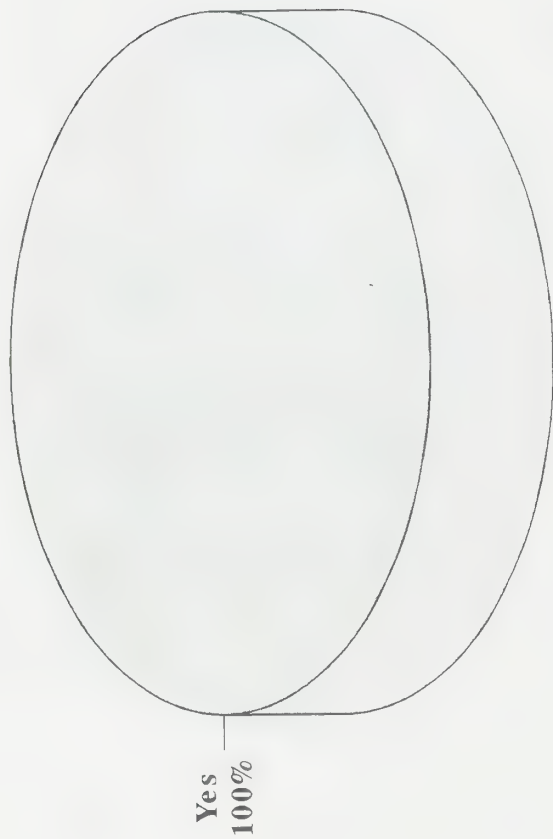
☐ Yes ☐ No ☐ Unsure

FIGURE HRAC 11

Do You Currently Train Your Staff On Environmental Issues



Small Business

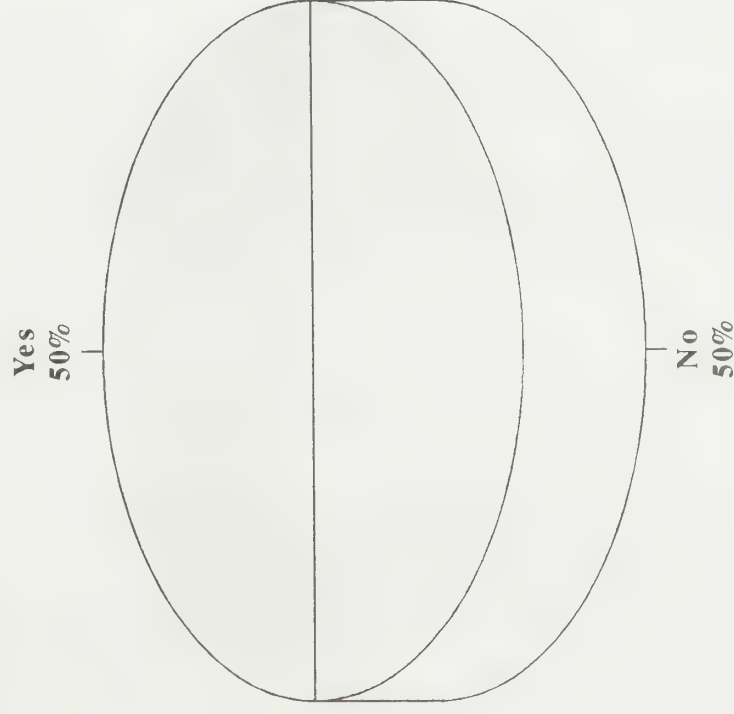


Medium/Large Business

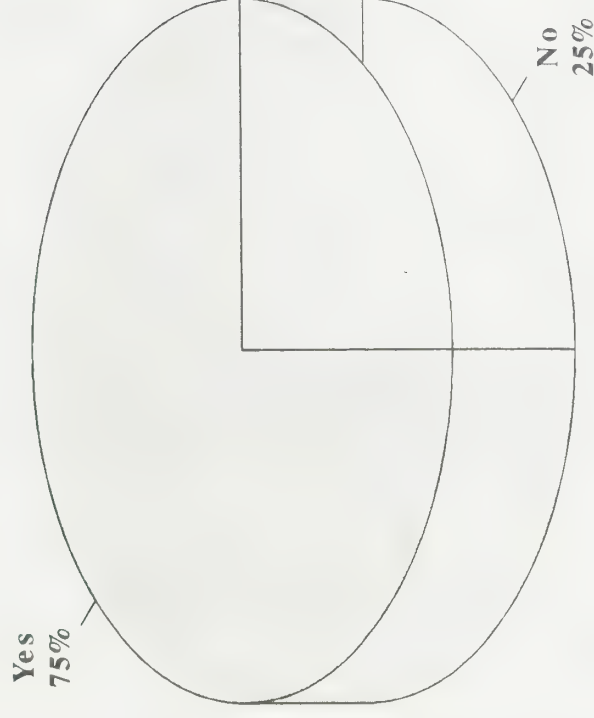
<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

FIGURE HRAC 11a

Employees Who Have Attended Seminars Or Courses Related To The Environment



Small Business



Medium/Large Business

<input type="checkbox"/> Yes <input type="checkbox"/> No
--

Companies within the heating, refrigeration and air conditioning sector appear to be stepping up their environmental training as evidenced by the number of companies previously involved in training and the number currently involved. This coincides with increased legislative overtures and public concern regarding the use of chlorofluorocarbons (CFC's), an industry staple. As in other sectors, a legislative lead is seen to be a major impetus for training. The challenge becomes to find proactive ways to offer business the incentive to respond to the demand on skills presented by changes within their industry without the punitive measure of non-compliance. The opportunity of showing business how to create environmentally sound practices while positively impacting the bottom line needs to be addressed.

Which of the following areas are of concern in the operation of your company?

This question provided the company with eight choices and was asked to determine specific areas of environmental concern.

Overall, recycling (93%), legislative compliance (80%) and air quality control (73%) were of the biggest concern to companies. Solid waste (50%), liquid waste (40%), depletion of natural resources (37%), toxic waste (27%) and water quality (20%) were seen as areas of lesser concern, although still ranked moderately high (Figures HRAC 12 & 13). Unlike in other sectors, cycling in the heating, refrigeration and air conditioning industry was related more to gasses than paper or other products.

Does your business participate now or have future plans for:

Reduction Re Use Recycling Material Substitution Initiatives

FIGURE HRAC 12

Which Of The Following Areas Of The Environment Are Of Concern In The Operation Of Your Business

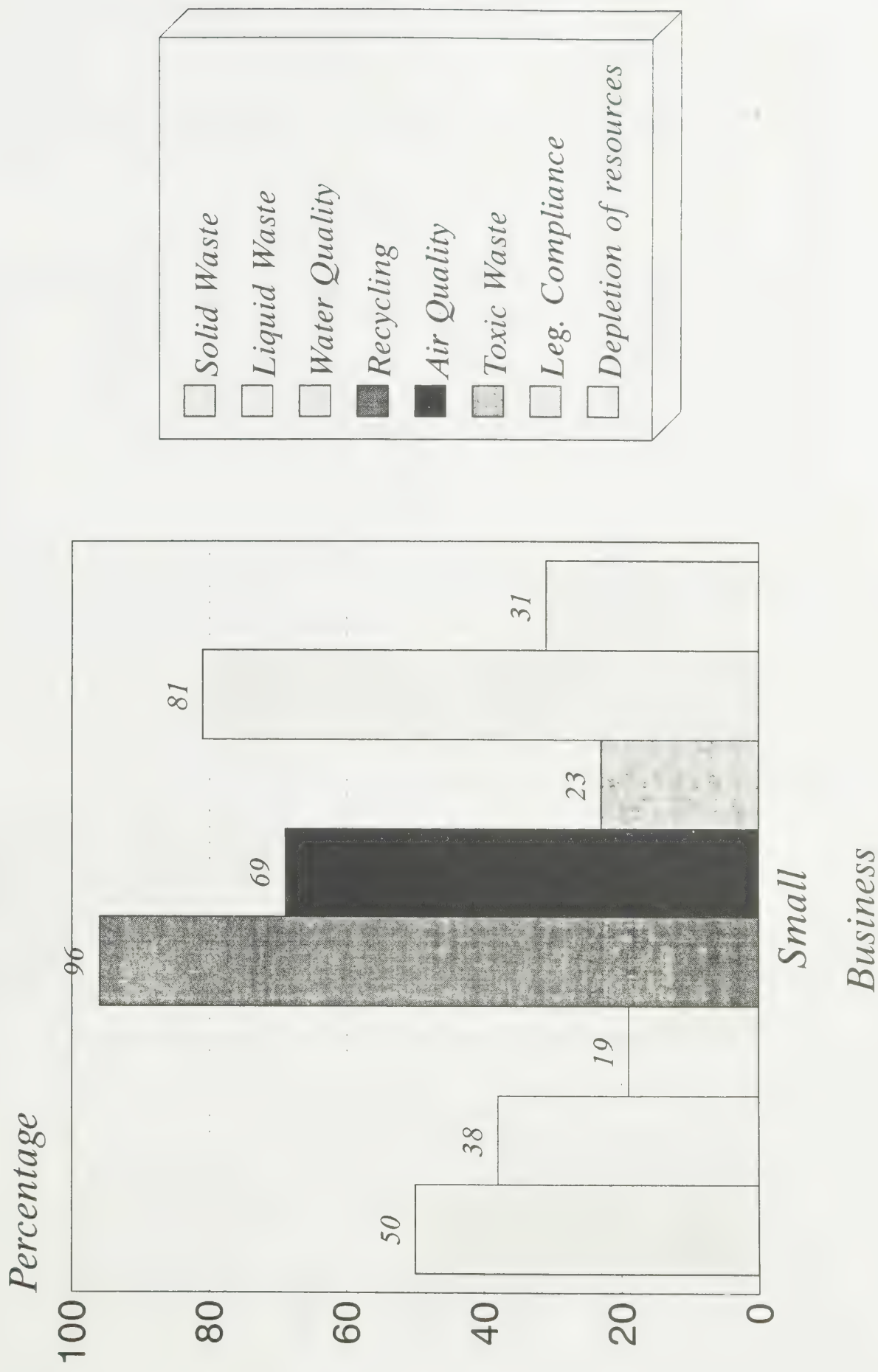
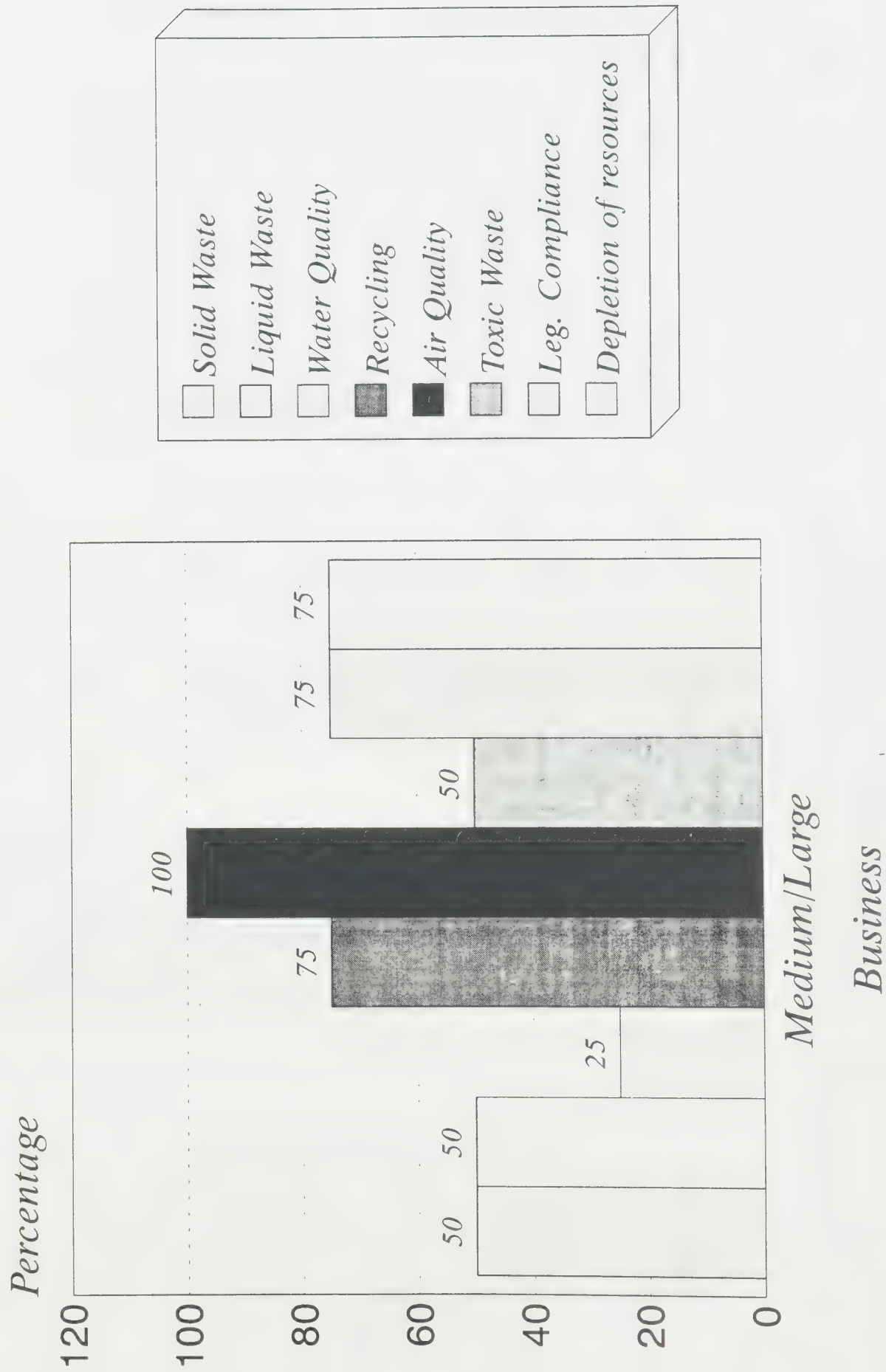


FIGURE HRAC 13

Which Of The Following Areas Of The Environment Are Of Concern In The Operation Of Your Business



This question was asked to determine the involvement of business in the most common of environmental practices.

Recycling activities are currently underway or are planned with 87 per cent of survey respondents. Re-use (73%), material substitution (57%) and reduction (50%) strategies were not as prevalent (Figure HRAC 14). Given the long term policy of the Canadian government to ban the use of CFC's it is surprising to see that only half the companies surveyed have considered reduction activities while only 57 per cent plan on replacing existing materials with an alternative. This appears to indicate a greater need to make business aware of sustainable development strategies, with particular attention paid to the effect on profitability.

Does your company require suppliers to comply with environmental practices?

This question was asked to provide further indications as to whether environmental concerns are becoming a regular part of business practice.

Overall, 70 per cent of surveyed companies require suppliers to comply with environmental practices, 27 per cent are not and three per cent are unsure (Figure HRAC 15). Growing environmental awareness among consumers, who are beginning to base purchasing decisions on the environmental practices of business, may account for this sector to become more demanding of suppliers and more aware of their environmental impacts.

Which of the following aspects of environmental legislation are most difficult for

FIGURE HRAC 14

Current Or Future Business Participation in Reduction, Re-Use, Recycling & Material Substitution

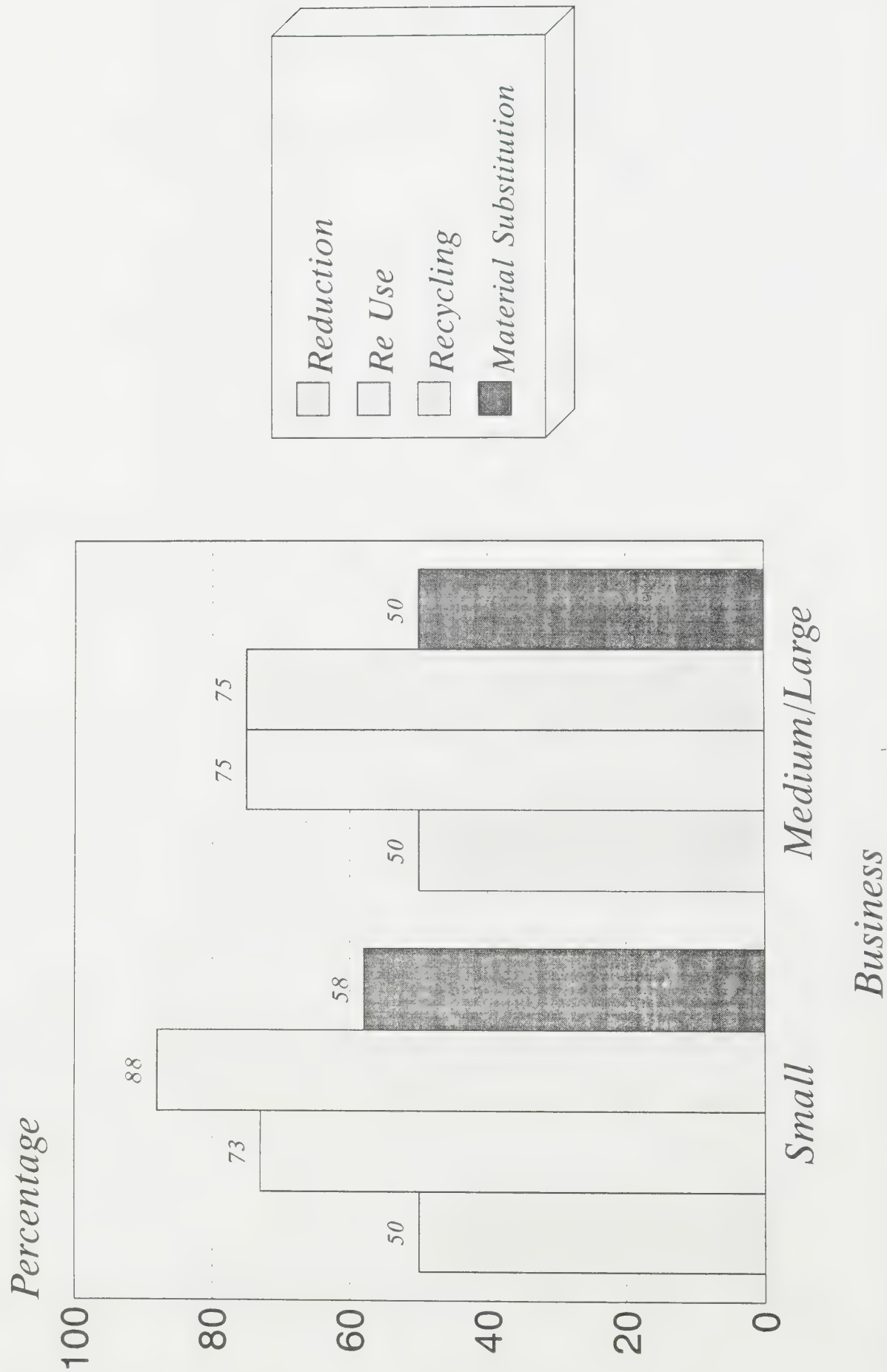
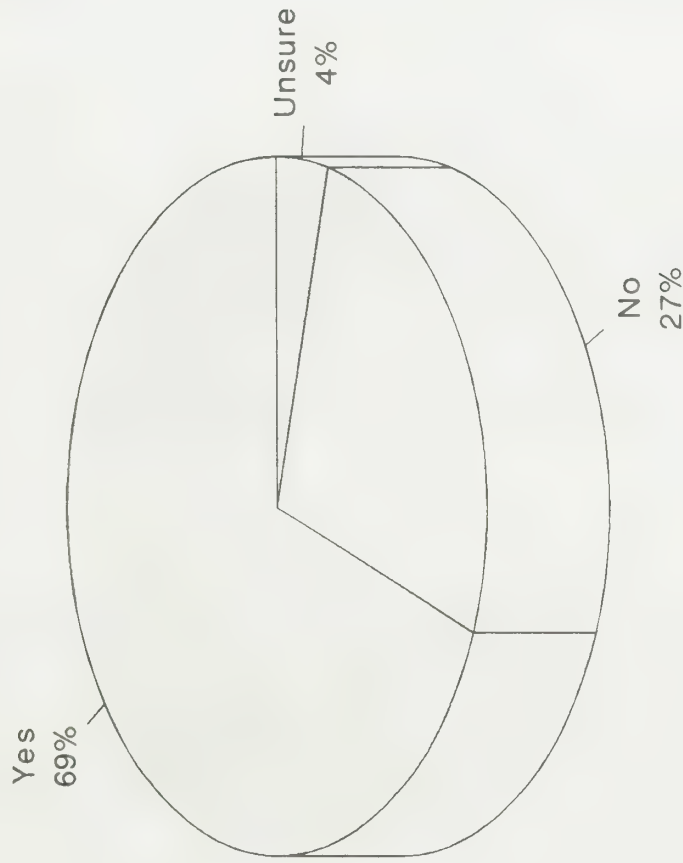
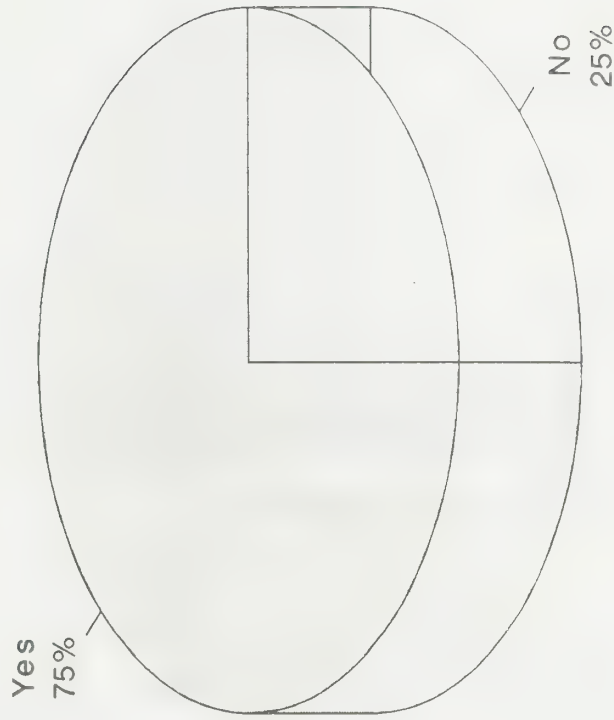


FIGURE HRAC 15

Does Your Company Require Suppliers To Comply with Environmental Practices



Small Business



Medium/Large Business

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
------------------------------	-----------------------------	---------------------------------

your business?

This question was asked to identify areas of compliance and compliance related issues with which business was experiencing the most trouble.

Increased fees (73%), keeping abreast of new laws (67%), increased paperwork (63%), cost of compliance (50%) and taxes (47%) were all seen to be aspects of environmental legislation which business found most difficult (Figure HRAC 16 &17). Inspections (27%) were not viewed to be as great a difficulty.

Many companies within the heating, refrigeration and air conditioning sector appear to view environmental compliance as a costly and time consuming requirement. Factors which are out of their control i.e. higher fees, changing laws, increased paperwork etc., contribute to a feeling that environmental practices are a detriment to profitability and must be enforced punitively. The overwhelming demand of change through legislation needs to be accompanied by a revised approach to getting the information out to business then assisting them with compliance. Small business, in the tactile trades in particular, must be given better information tools with which to work. A new means of assisting business in dealing with sustainable development models should be investigated by enforcing bodies so that environmentally sound business practices are not viewed as negatively affecting the bottom line.

What type of environmental training do you feel would benefit your company most?

This question was asked to determine the immediate and specific skill requirements of business in areas relating to the environment. Twelve choices were given.

FIGURE HRAC 16

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business

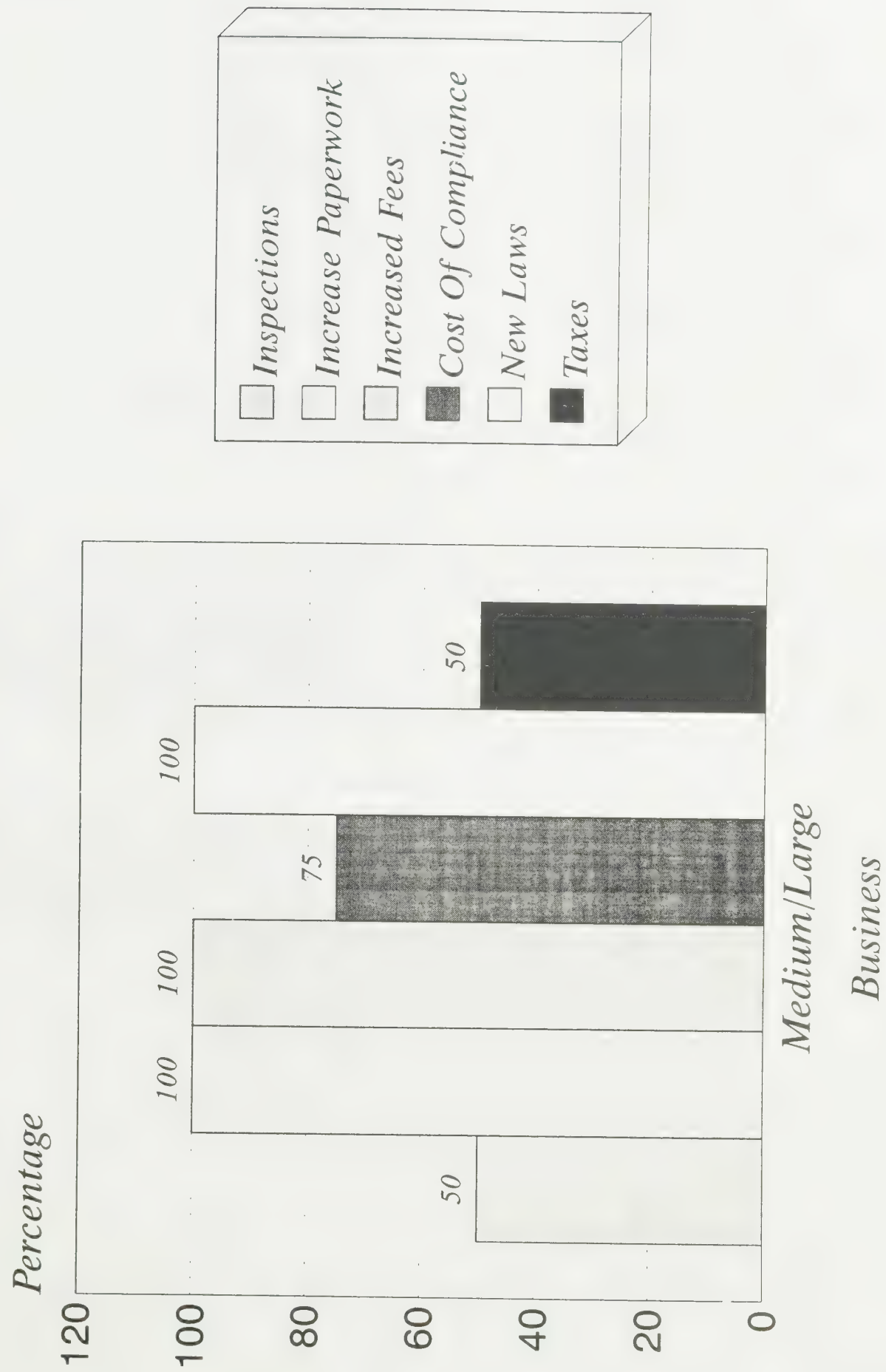
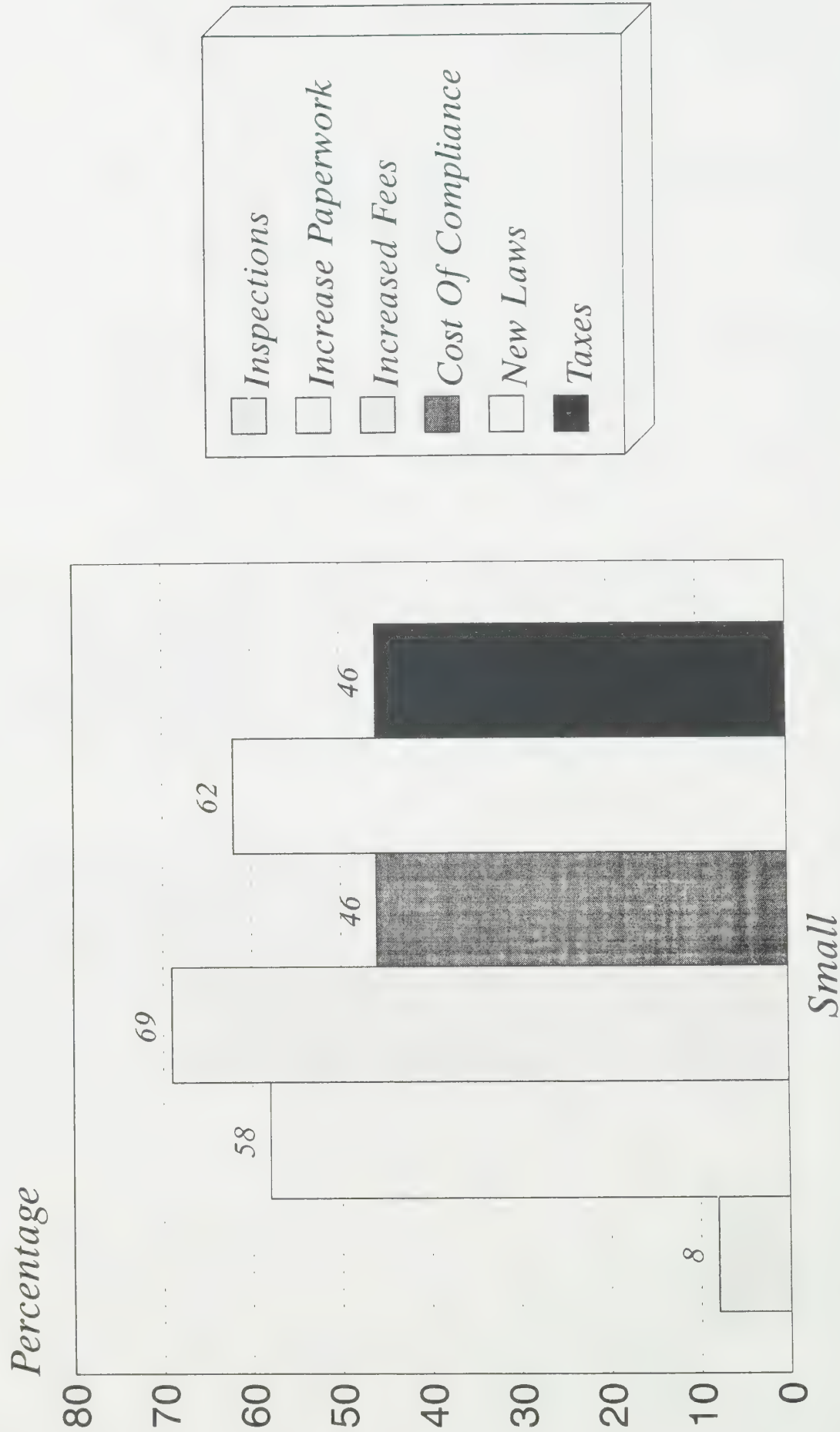


FIGURE HRAC 17

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business



Small Business

In total, 77 per cent of surveyed companies viewed gas recovery and technological innovation training as the most beneficial, air quality control (73%), testing procedures (70%), legislative compliance (60%), financial planning (57%), hazardous waste management (47%), emissions (43%) and disposal alternatives (40%) were also seen as in demand (Figures HRAC 18 &19). Only sewage treatment (10%) had little interest.

Results indicate an extremely high need for environmental training within this sector. While much of this need can be contributed to the need for compliance it is also reflective of a concern for the protection of the general and workplace environment, enhancement of the business operation as a whole and a reaction to consumer demand to "buy green."

What is the largest barrier to environmental training of your staff?

This question was asked to determine what was preventing business from going forward with training that it needs. Eight options were provided.

Within this sector a difficulty in assessing their needs (70%) was seen as the largest impediment to training. Other knowledge and money based barriers, i.e. lack of financial resources (53%), lack of information about programs (47%), unable to give time off (47%), lack of technical knowledge (43%), and training is unavailable (40%) also created difficulties in pursuing training. Employee resistance (33%) rated much higher than in most sectors, while a lack of management support (1%) was not seen to be a barrier (Figures 20 &21).

While this sector indicates a high need for training in the environment it is being

FIGURE HRAC 18

Environmental Training That Would Benefit A Company The Most

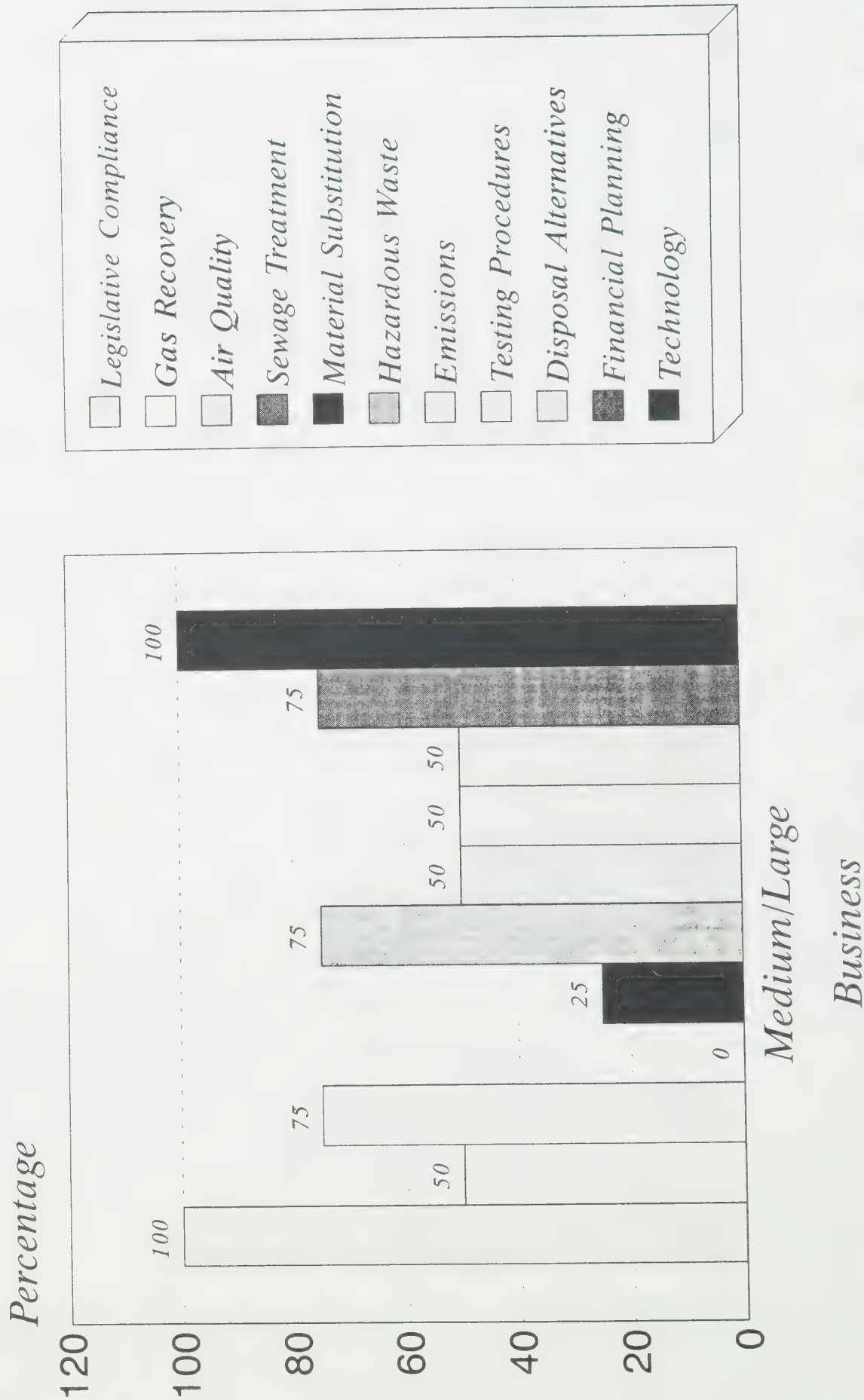


FIGURE HRAC 19

Environmental Training That Would Benefit A Company The Most

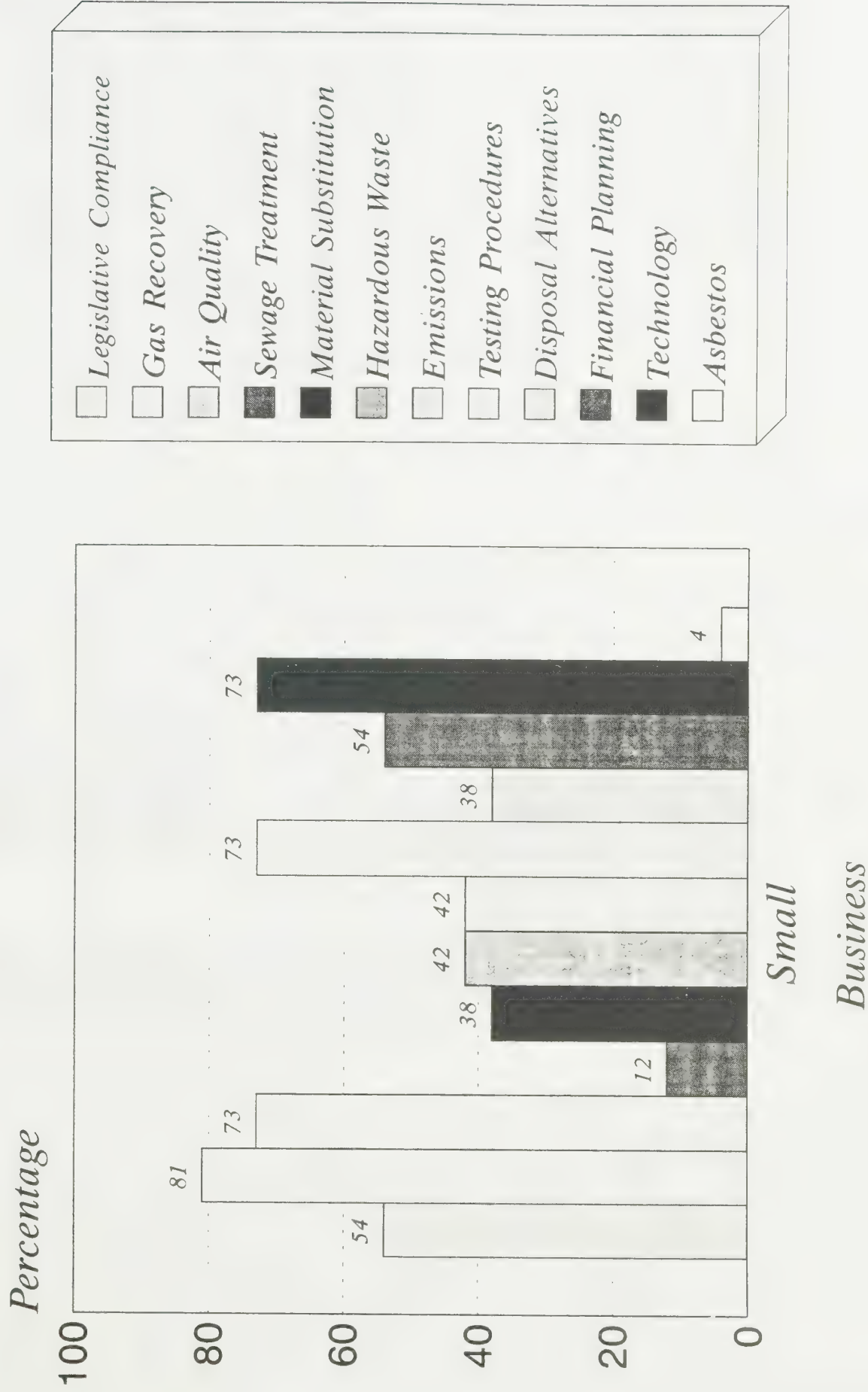
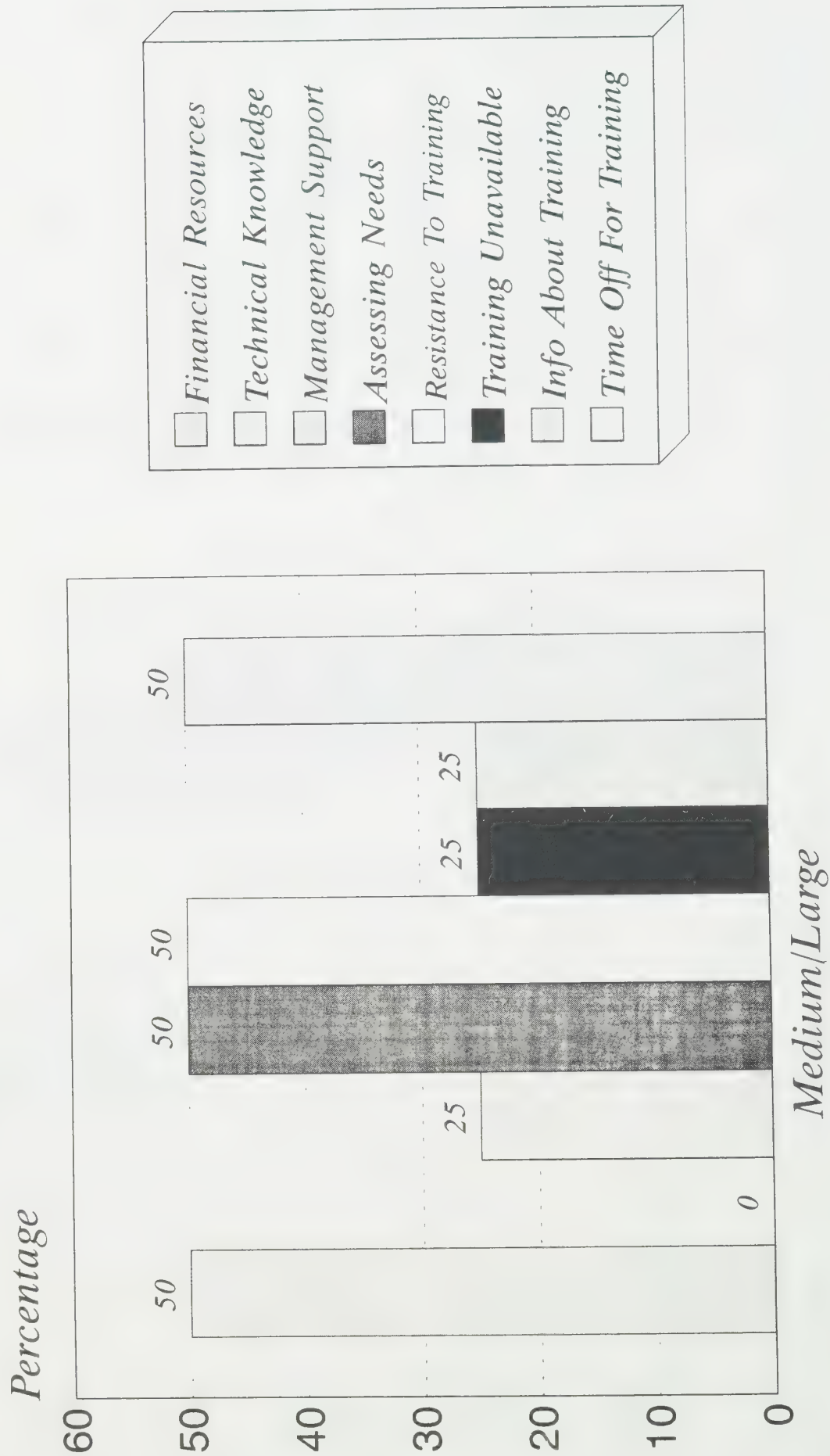


FIGURE HRAC 20

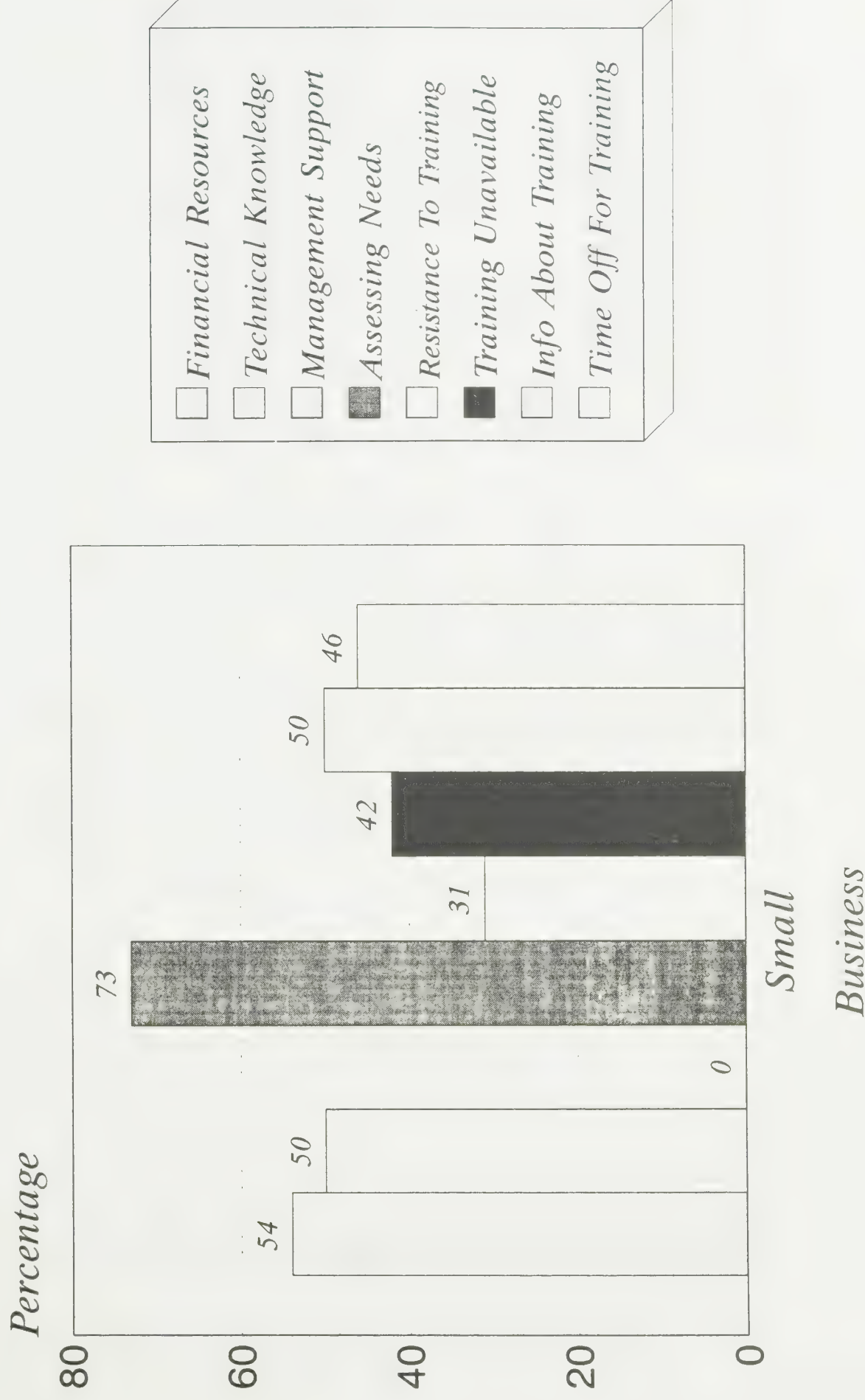
Largest Barrier To Environmental Training For The Staff



Medium/Large
Business

FIGURE HRAC 21

Largest Barrier To Environmental Training For The Staff



hampered by an inability to determine what skills are needed. It also indicates difficulty with dedicating resources toward training and acquiring information about what training exists. These barriers are indicative of a difficulty in dealing with new laws and requirements in the way they are currently being presented. Governing bodies need to find a way to present change to business in a way that does not require it to play the costly game of "catch-up." Information that is released should include the "how to's" of compliance and should promote the advantages of environmental adaptation.

When involved in training which type of format do you prefer?

This question was asked to determine what training times most suited business needs. Six options were presented.

Seminars/workshops (63%), evening classes (47%) and on-site (33%) training were viewed as the most accommodating to the industry, while half a day per week (23%), full-time in school (1%) and an intensive half week course (0) were least preferred (Figures 22 & 23).

Training that is short and presents the least impact on the daily operations of business remain the preferred choice and are consistent with identified barriers to training.

Do you foresee a need to hire graduates from an environmentally related course?

This question was asked to determine which businesses were breaking out environmental responsibilities as distinct occupations.

FIGURE HRAC 22

When Involved In Training Which Type Of Training Format Do You Prefer

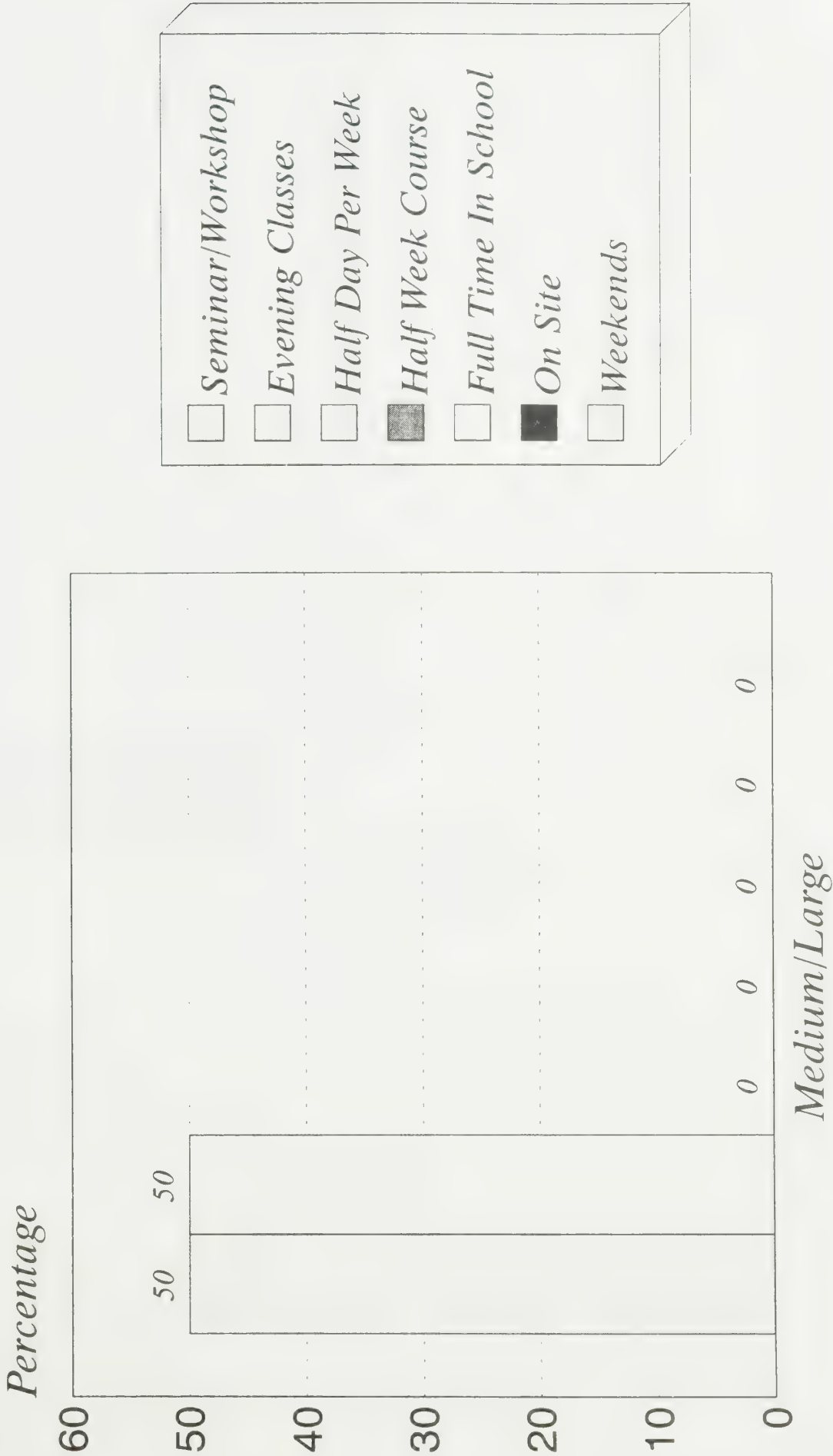
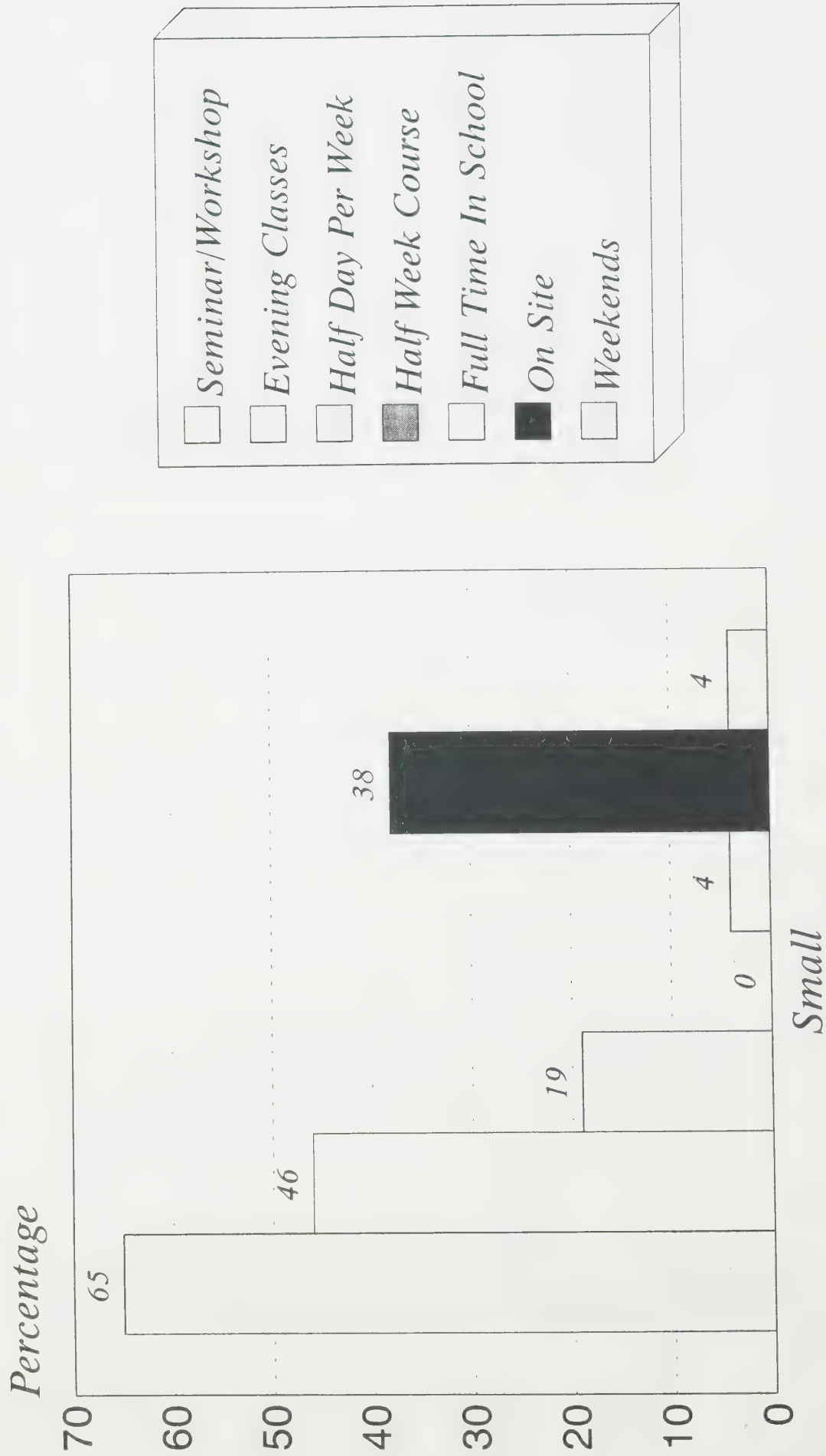


FIGURE HRAC 23

When Involved In Training Which Type Of Training Format Do You Prefer



Business

Overall, only 10 per cent of surveyed companies indicated a need to hire an environmental specialist (Figure HRAC 24). Given the impact this sector has on the environment (the industry currently uses 60% of all controlled CFC's in Canada), it is important that environmental practices be integrated into existing training programs directed at this sector.

Did you find the information we provided helpful?

Did it influence any of your answers after it was given to you?

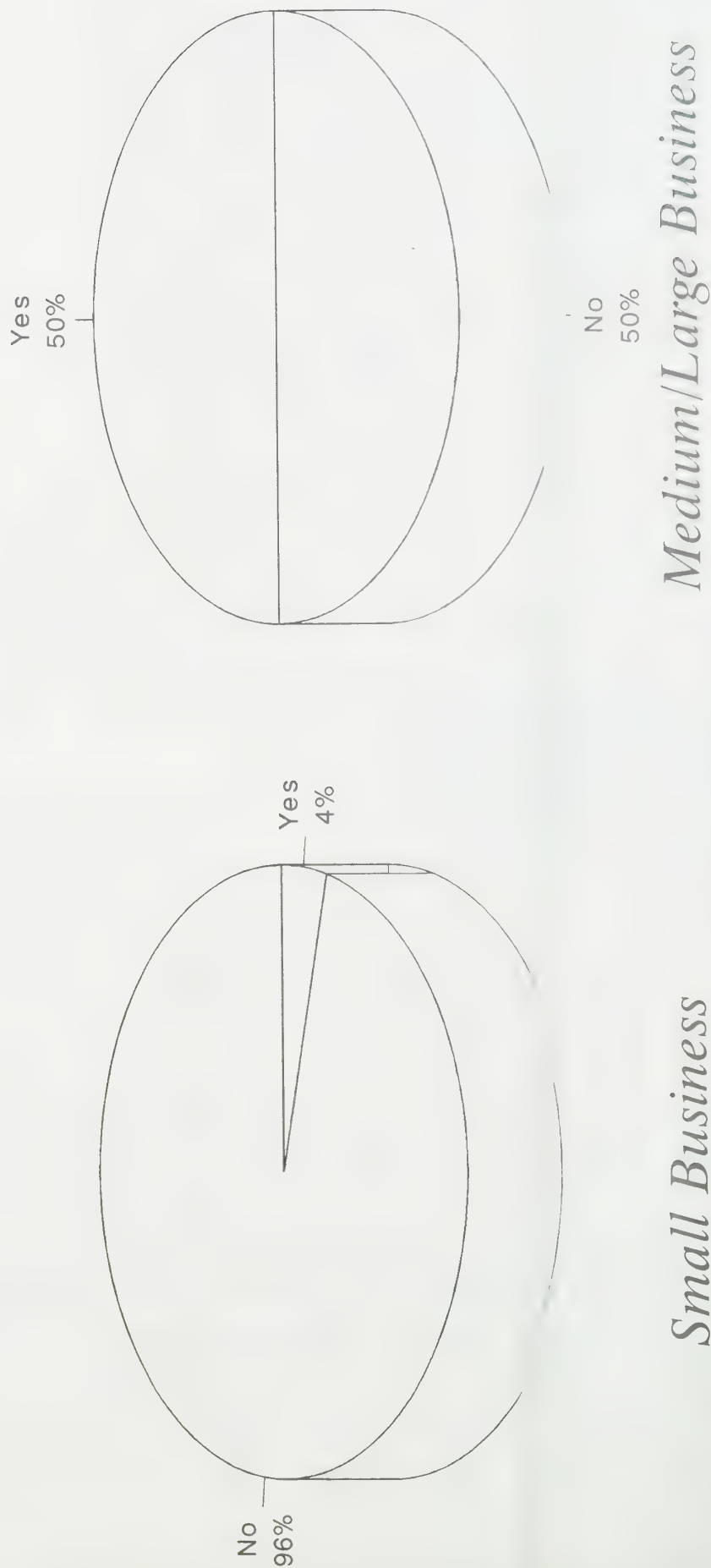
These questions were asked after tranSKILLS conducted and presented research into the environmental impact on the industry as determined by environmental experts. We were attempting to determine whether new ways of collecting labour market information would enhance business without adversely affecting survey results.

Half of the survey respondents indicated they found the information helpful (Figure HRAC 25) while none felt it influenced their answers (Figure HRAC 26).

Although small business is acknowledged as the primary generator of new jobs within Canada, information systems are not set up to allow for easy access or understanding of data that effects business operations. As stated earlier, the ability to deal with an increasing amount of information is a skill that needs to be enhanced, particularly in the tactile trades. This processing of directly exchanging information for information, while threatening to statisticians and somewhat lacking in scientific methodology, appears to aid business as indicated by the survey results to this question. There also appears to have no impact on their answers and doesn't warrant the fear of having skewed results.

FIGURE HRAC 24

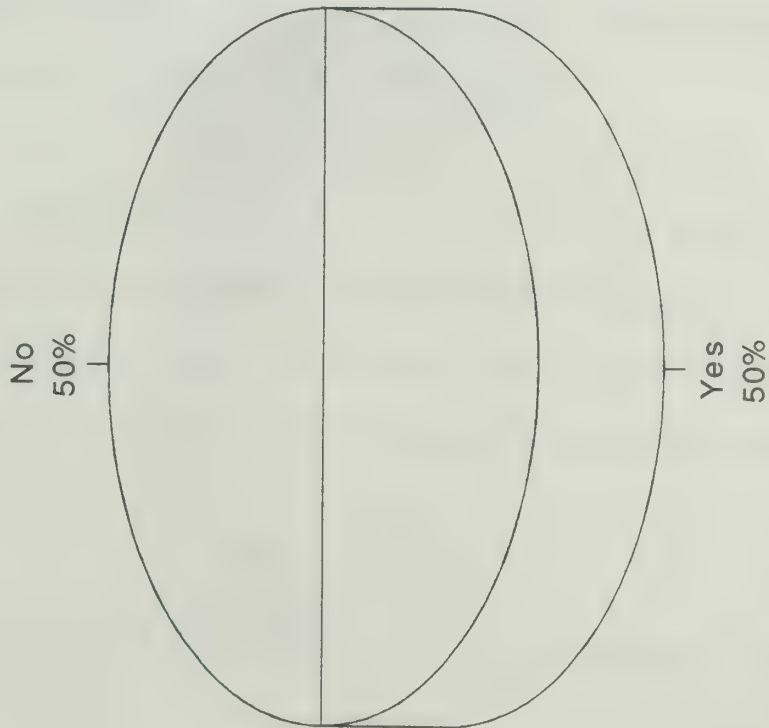
Do You Foresee A Need To Hire Graduates From An Environmentally Related Course



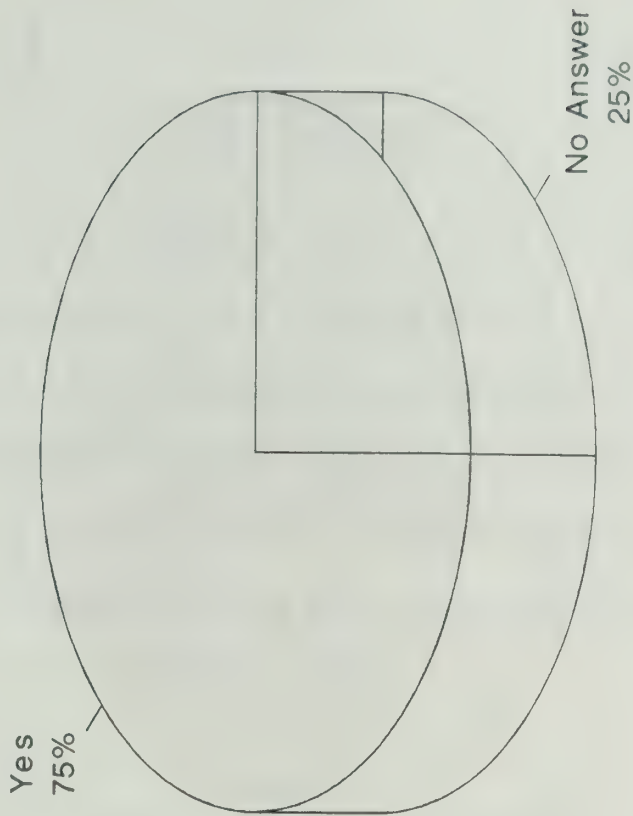
☐ No ☐ Yes

FIGURE HRAC 25

Did The Information Sheet Provided Helpful In Any Way



Small Business



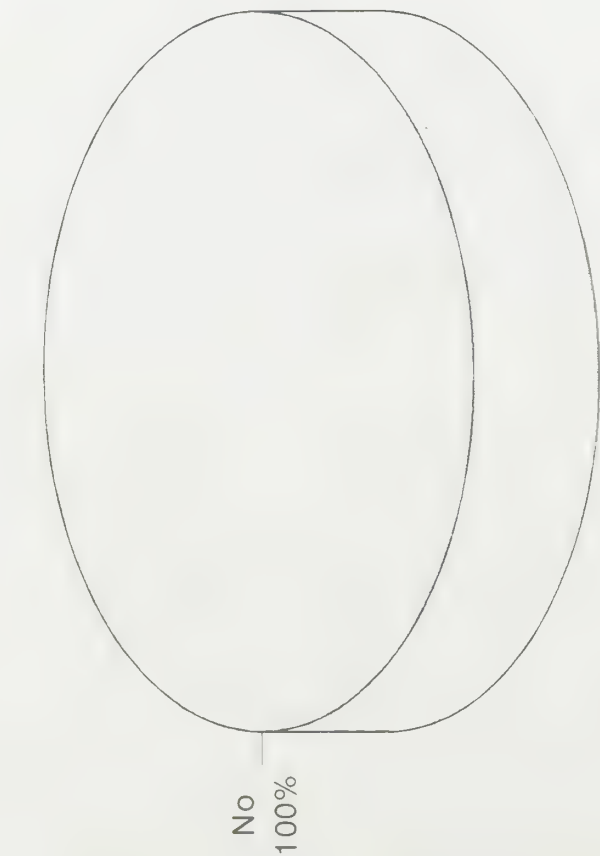
Medium/Large Business

☐ No

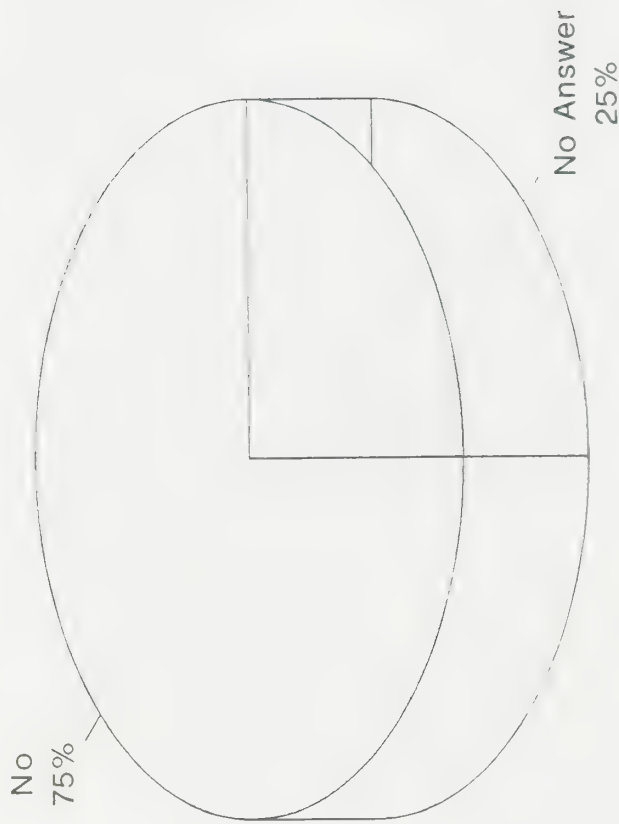
☐ Yes

FIGURE HRAC 26

Did It Influence Any Of Your Answers After It Was Given To You



Small Business



Medium Business

☐

No

Electronics

tranSKILLS interviewed 15 owners/managers of local electronic service and manufacturing firms representing five per cent of the total survey population of 317 interviews. Seven surveys were conducted with small businesses employing between 1-20 people, three were done with medium sized business employing between 21-99 workers and two were performed with large companies employing over 100 workers. Results of the surveys conducted with large and medium companies have been combined in the survey results. All surveys were done in person.

Job Title: Person on staff who perform environmental tasks.

Does your company have someone on staff in charge of environmental issues?

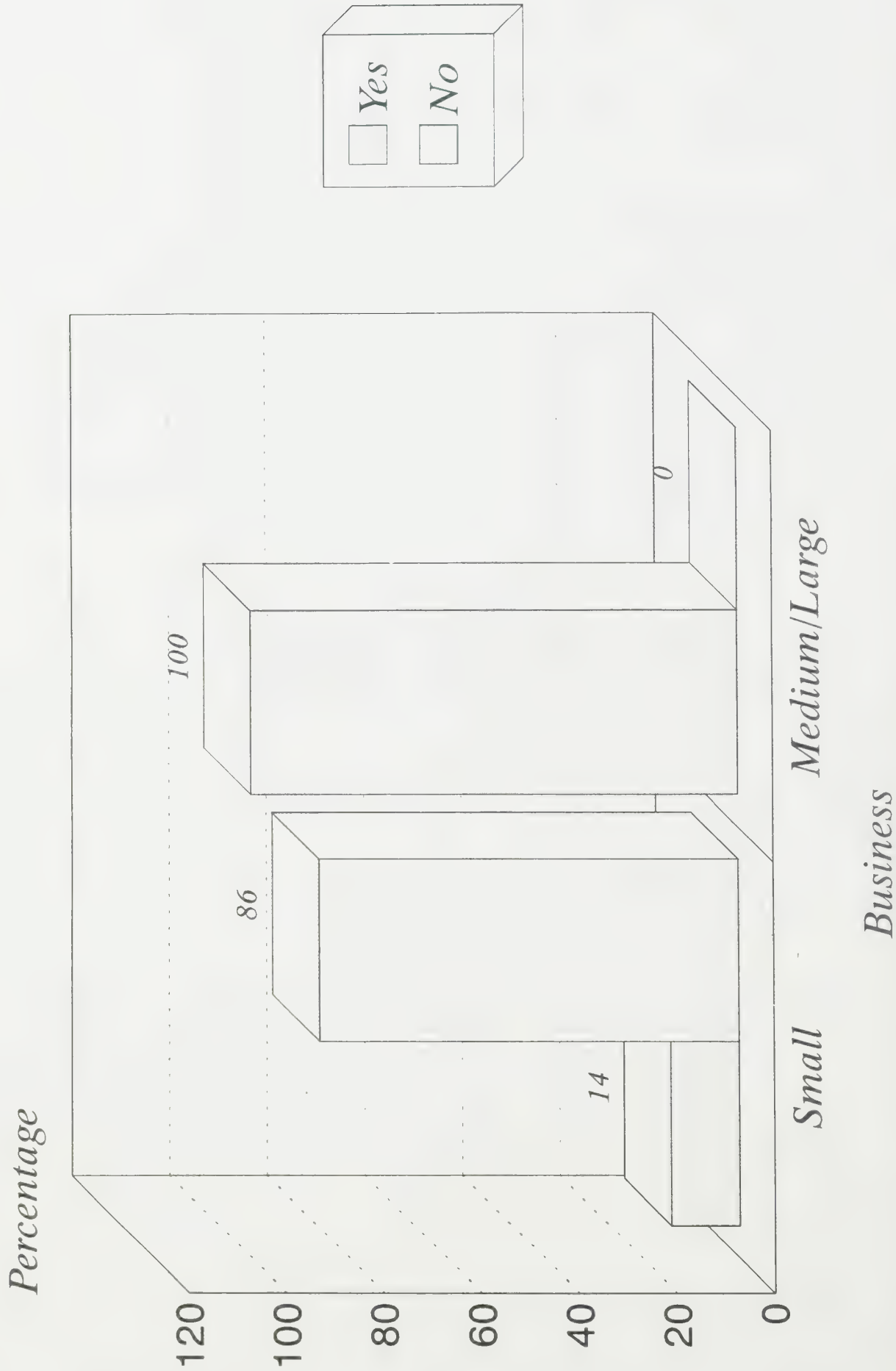
These questions were asked to determine if companies were assigning specific environmental duties to workers and whether someone was ultimately responsible for the environment within a workplace. We hoped to determine if there was one occupation to which the responsibility of environmentally related tasks fell.

In the electronics sector environmental tasks were carried out by a variety of occupations ranging from a store owner in the service industry to a plant manager or machinist in the manufacturing end. Eighty-six per cent of small companies and all of the medium-large firms indicated they had someone on staff in charge of environmental issues (Figure Elec 1).

The spread of environmental tasks across a series of jobs appears to indicate a need to

FIGURE ELEC 1

Does Your Company Have Someone On Staff Who Is In Charge Of Environmental Issues



include environmental training into a variety of occupations. While the dispersion of environmental tasks to a series of workers may make it easier to carry out environmental chores, it risks having these tasks become superfluous to the primary responsibility of the employee. By integrating environmental adaptation into specific skills training, i.e. as part of the program for an electronics technician, it is ensured these skills will be properly incorporated into the job.

How many people overall have been hired in the last year?

How many people do you need to hire today?

Have you had any difficulty in hiring?

Do you anticipate any new hires over the next 12 months due to growth?

Do you anticipate any new hires over the next 12 months due to staff replacement?

These questions, which appeared in different parts of the survey, have been placed together as they reflect the past and future growth of the sector surveyed. They also assist in anticipating any future needs and potential difficulties in meeting those needs.

The surveyed electronics sector experienced job losses totalling 152 people last year, all in the medium-large sector. When this survey was conducted two small companies indicated a need to hire one person each, while no company indicated any hiring difficulties. Strong growth is indicated for this sector in the coming year as 71 per cent of small companies and 60 per cent of medium-large firms (Figure Elec 2) have plans on hiring over the next 12 months due to growth. New hires due to staff replacement, 14 per cent by small companies and 40 per cent by medium-large companies (Figure Elec 3), will not create as many job openings.

FIGURE ELEC 2

Do You Anticipate Any New Hires Over The Next 12 Months Due To Growth

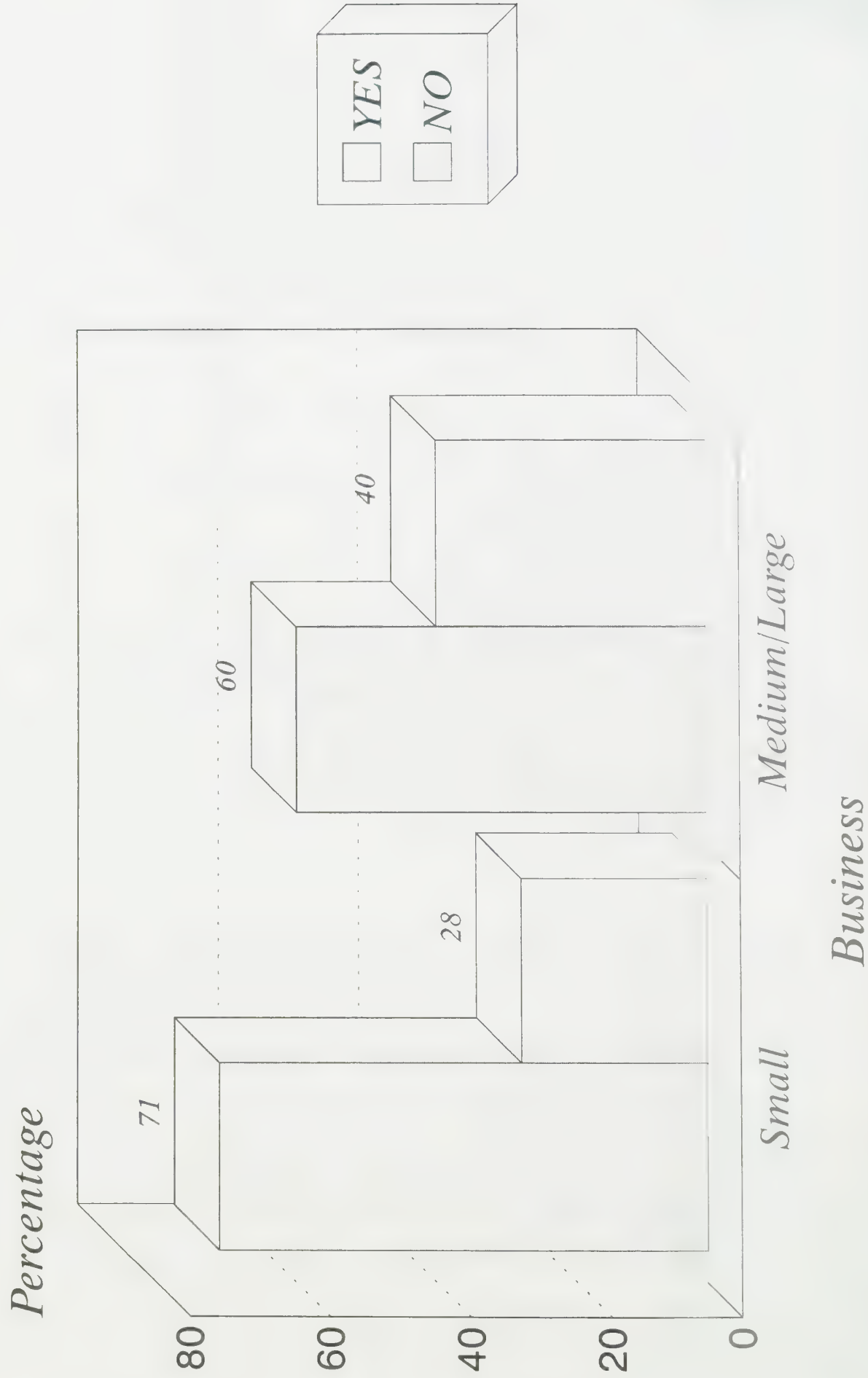
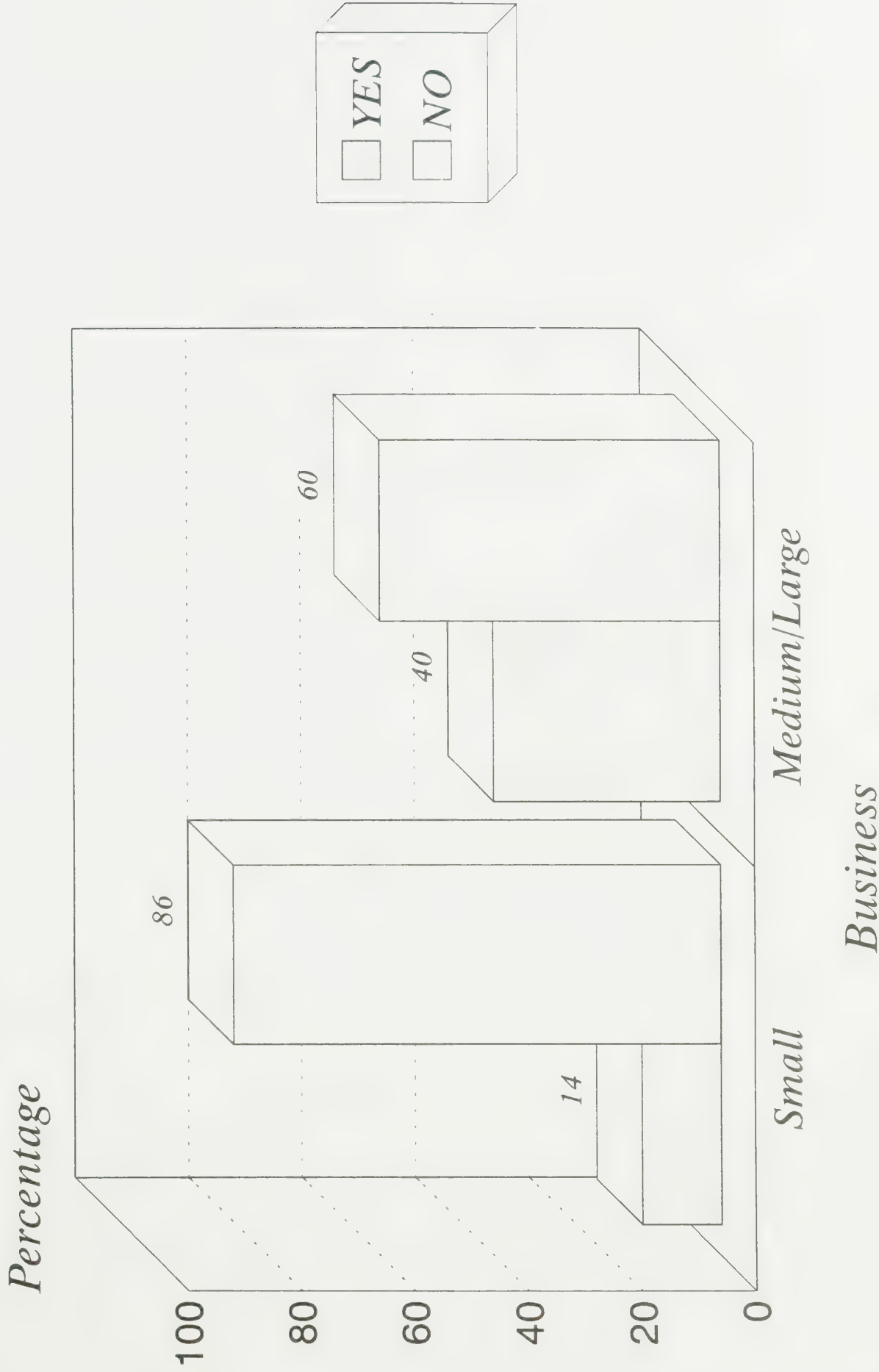


FIGURE ELEC 3

Do You Anticipate Any New Hires Over The Next 12 Months Due To Staff Replacement



Although it was a tough past year for the electronics industry there are positive signs of growth for the coming year, lead by small business. This is not inconsistent with national trends as small business accounts for 70 per cent of all new jobs created in Canada.

How many people on your staff require skills upgrading?

What are the skills your staff need in order to meet the current and future needs of your industry?

These questions were asked to determine the extent and type of training required?

Overall, 75 per cent of surveyed firms felt all of their staff required some type of skills upgrading, eight per cent said some did, eight per cent said no one did and eight per cent were uncertain (Figure Elec 4). The skills required were many and varied (the 12 companies surveyed listed 35 distinct areas of upgrading) ranging from customer/sales skills to quality control and computer engineering.

Do you plan on introducing new equipment next year?

What kinds of equipment?

What impact will this equipment have on the skill requirements of the occupations affected?

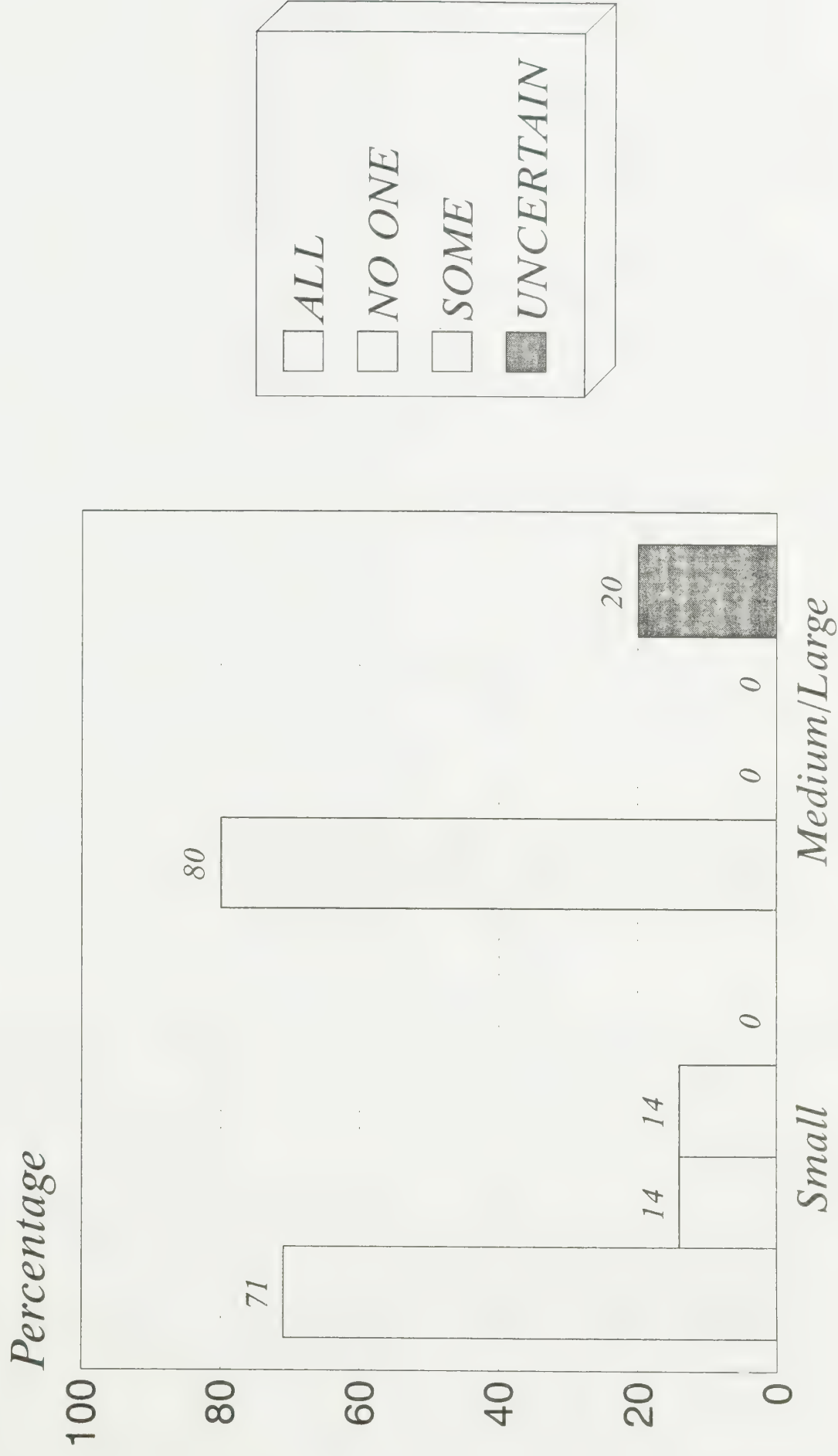
Do you plan on introducing new processing methods?

Can you describe the impact these new processing methods will have on the skill requirements of those affected?

To what extent do you expect technology to impact on your business in the next 2 to 3 years?

FIGURE ELEC 4

How Many People Of Your Staff Require Skills Upgrading



These questions were asked to determine the extent of change in each sector and the awareness of the effects that change will have.

In total, 58 per cent of companies surveyed plan on introducing new equipment next year (Figure Elec 5) while only 17 per cent will be introducing new processing methods (Figure Elec 6). Over the next two to three years 92 per cent of the surveyed companies predict the introduction of new technology will have a moderate to very substantial impact on their business (Figure Elec 7).

The wide gulf between the number of companies introducing new equipment and the number introducing new processing methods brings into question what happens when new material reaches the workplace. If the equipment introduced is simply replacing identical equipment, or is only a minor upgrade, it is understandable that there is no substantial impact on process. However, if the equipment is different it may require new approaches to the job. This correlation between new equipment and new processes requires further investigation.

Is your business currently regulated by an environmental government department?

Do any of your staff require environmental certification to perform their jobs at present?

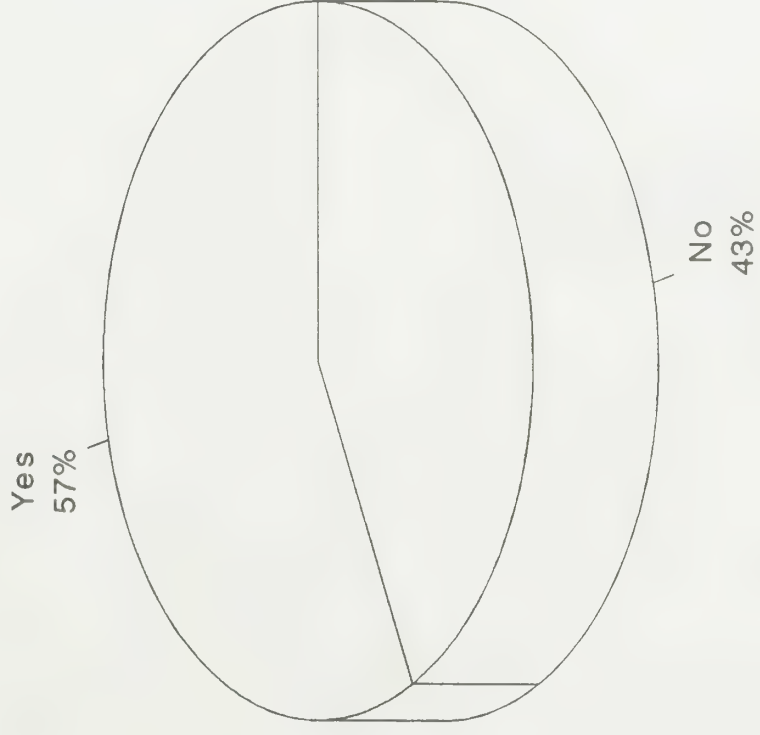
Are any of your staff able to identify critical functions related to the environment?

Do you currently train your staff on environmental issues?

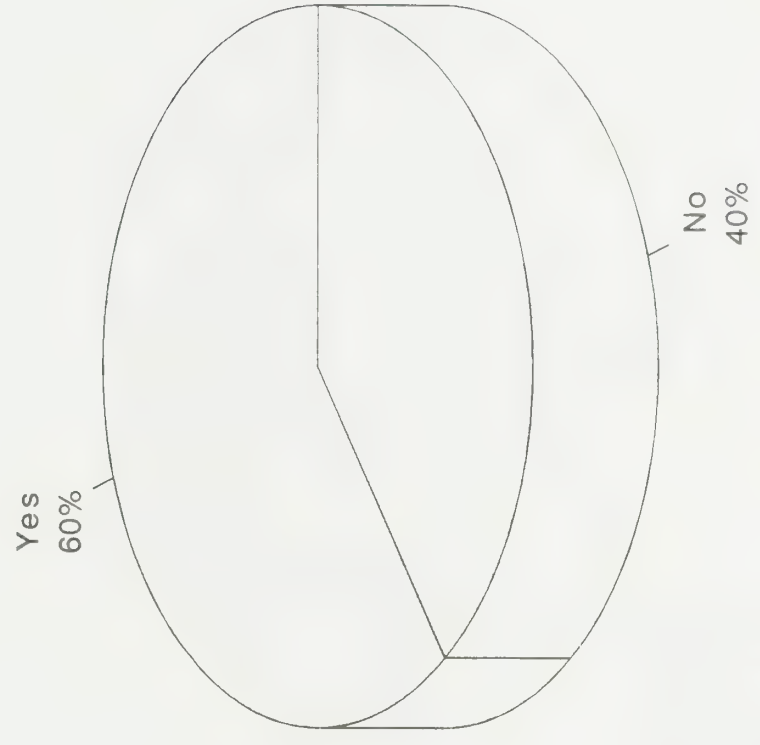
Have any of your employees attended seminars or courses related to the environment?

FIGURE ELEC 5

Do You Plan On Introducing New Equipment Next Year



Small Business

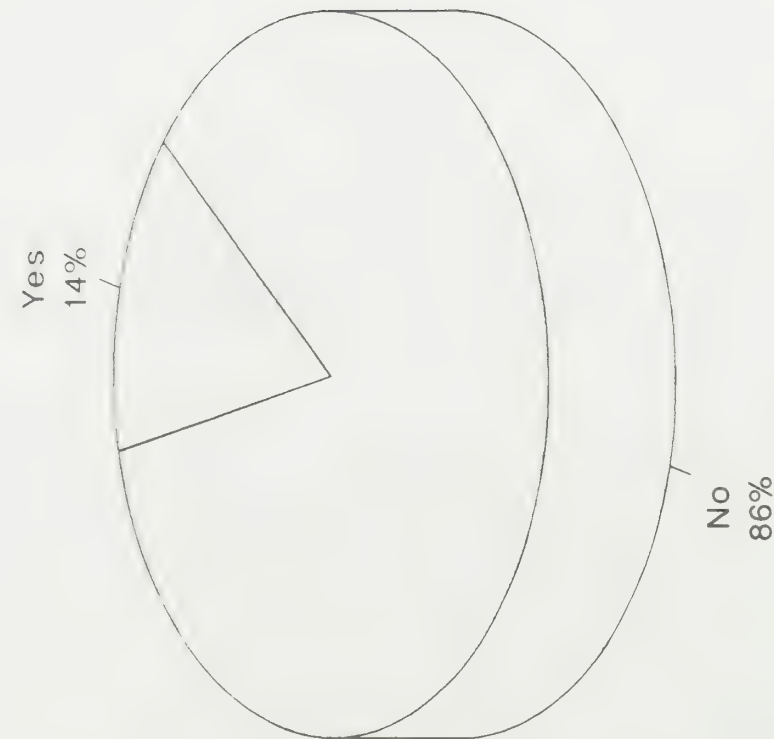


Medium/Large Business

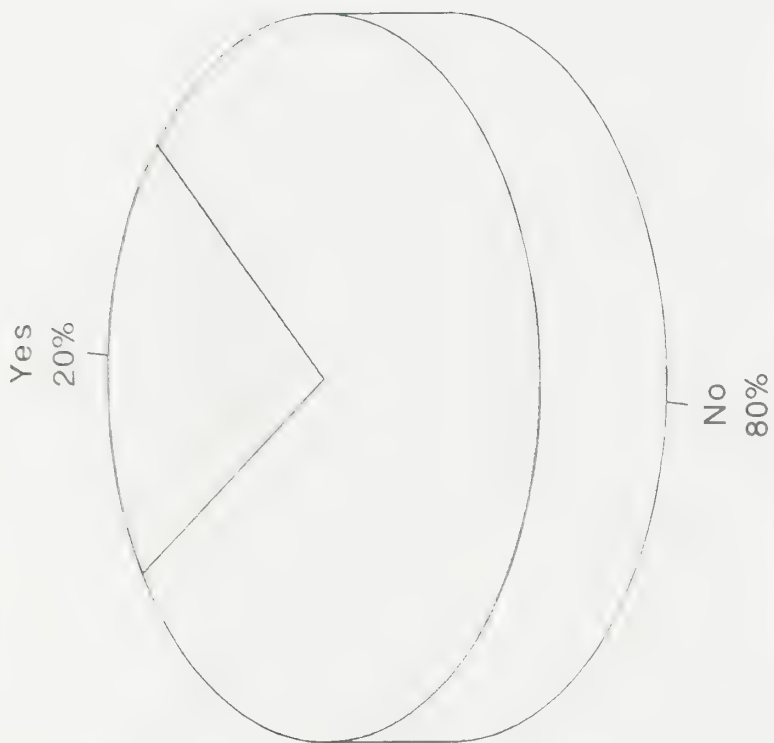
☐ Yes ☐ No

FIGURE ELEC 6

Do You Plan On Introducing New Processing Methods



Small Business

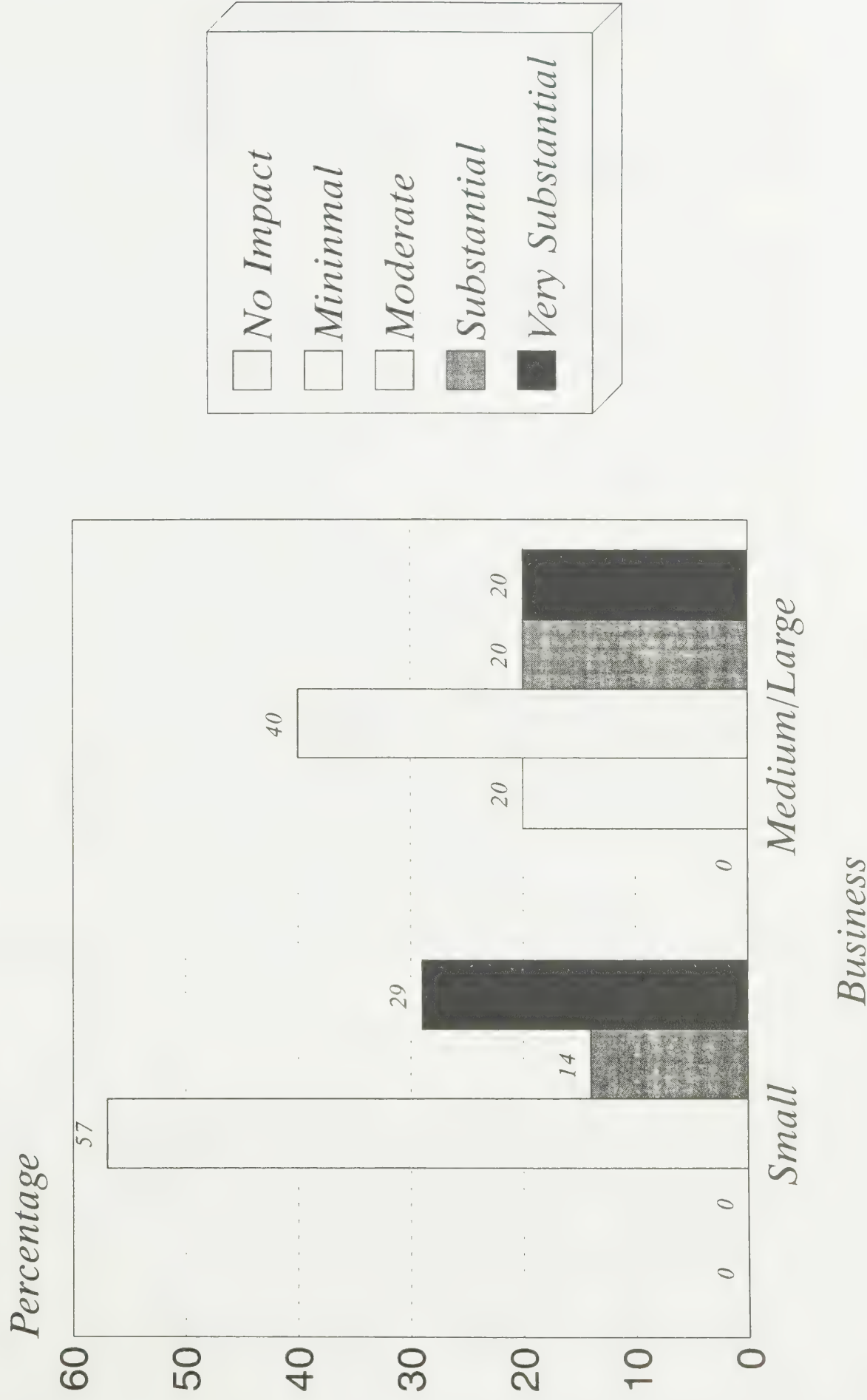


Medium/Large Business

☐ Yes ☐ No

FIGURE ELEC 7

Expected Technology Impact On Businesses Over The Next 2 To 3 Years



These questions were asked to determine the degree of business awareness and response regarding the environment.

While all places of business are subject to environmental regulations and enforcement by a government body, there is a wide gap between small and medium-large business in terms of this awareness. All of the larger companies were aware they were regulated but only 14 per cent of small companies had this understanding (Figure Elec 8). As a result none of the small businesses indicated they employed workers with environmental certification and only 20 per cent of the medium-large firms indicated they had employees with environmental certification (Figure Elec 9). However, all medium-large firms said they had staff able to recognize critical functions related to the environment, while 57 per cent of small companies indicated the same (Figure Elec 10). Eighty per cent of the medium-large firms indicated they were currently training staff on environmental issues, but only 14 per cent of the small businesses were also involved in environmental training (Figure Elec 11). In the past only 14 per cent of small firms had ever had anyone take a seminar or course related to the environment while 40 per cent of the medium-large firms indicated some of their staff had been involved in environmental training (Figure Elec 12).

Which of the following areas are of concern in the operation of your company?

This question provided the company with eight choices and was asked to determine specific areas of environmental concern.

FIGURE ELEC 8

Is Your Business Currently Regulated By An Environmental Government Department

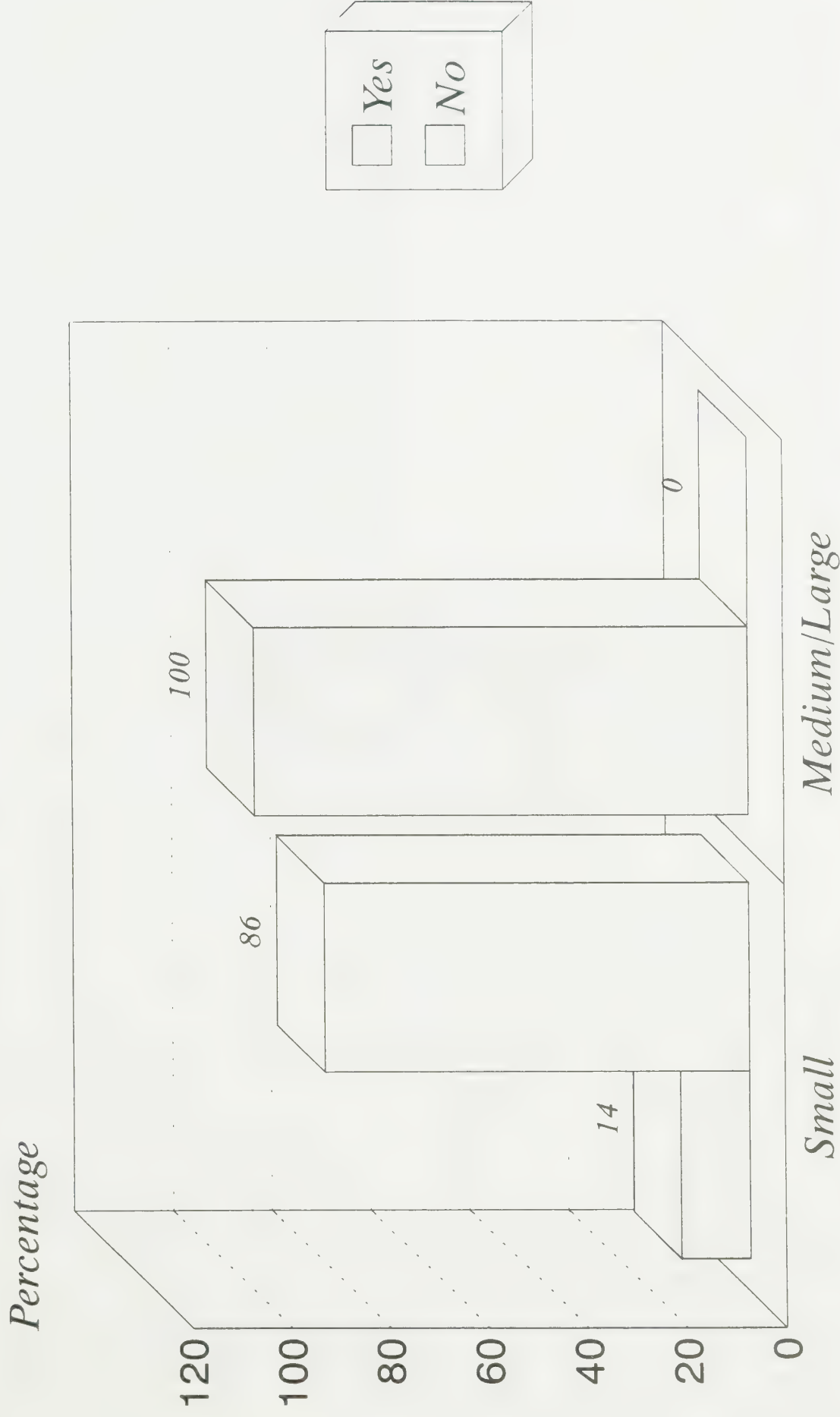


FIGURE ELEC 9

Do Any Of Your Staff Require Environmental Certification To Perform Their Job

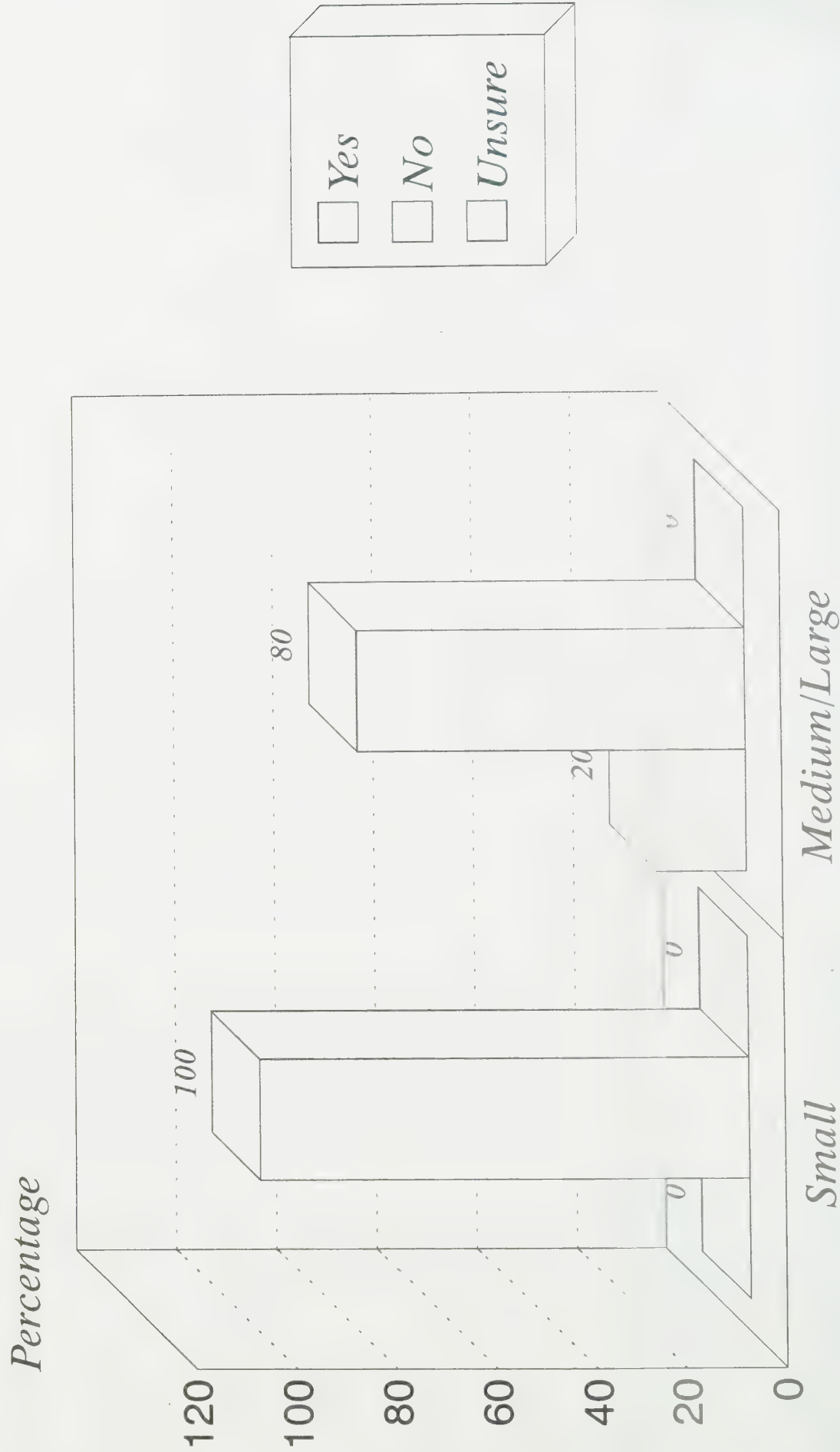


FIGURE ELEC 10

Are Any Of Your Staff Able To Identify Critical Functions Related To The Environment

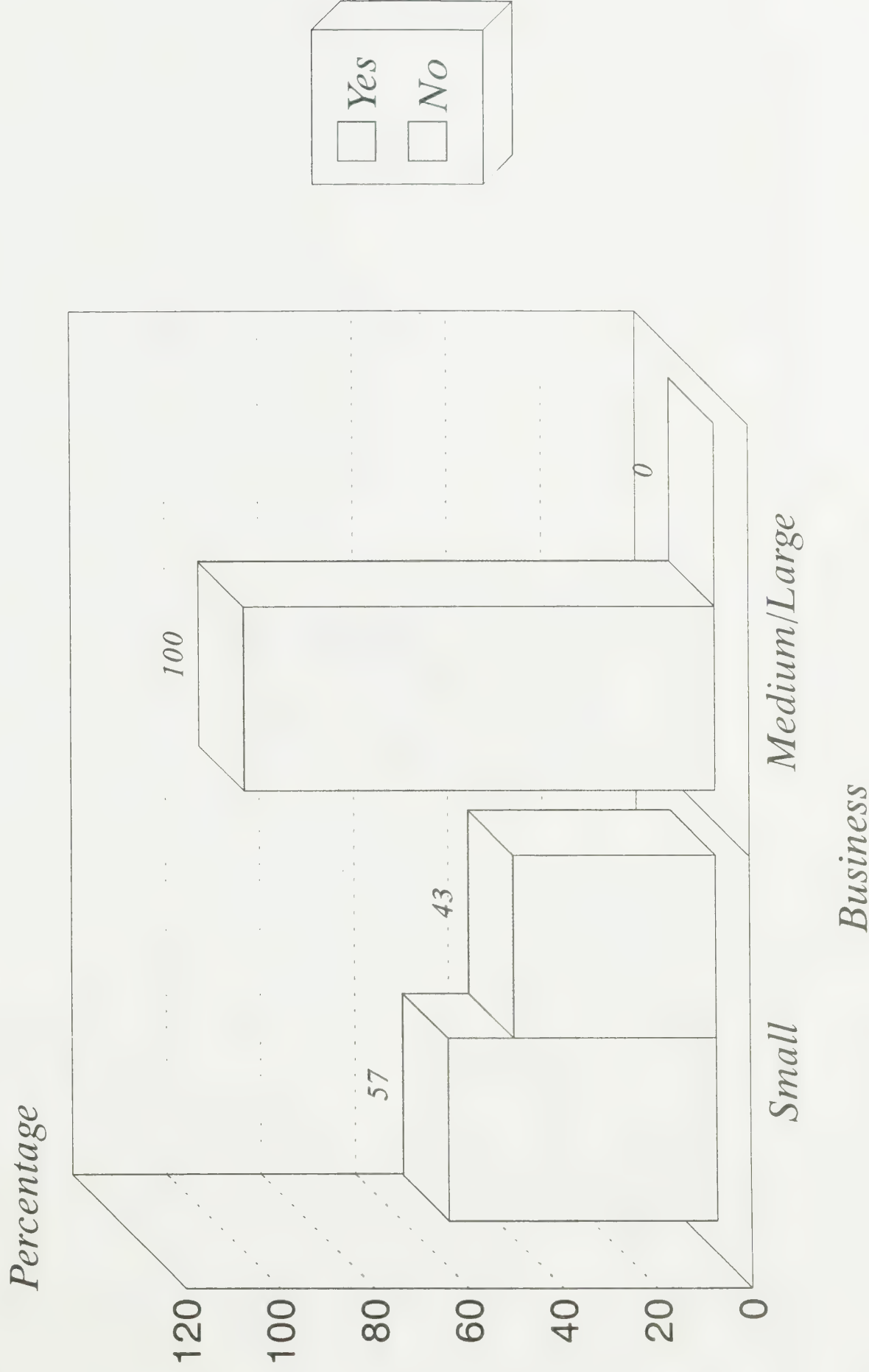


FIGURE ELEC 11

Do You Currently Train Your Staff On Environmental Issues

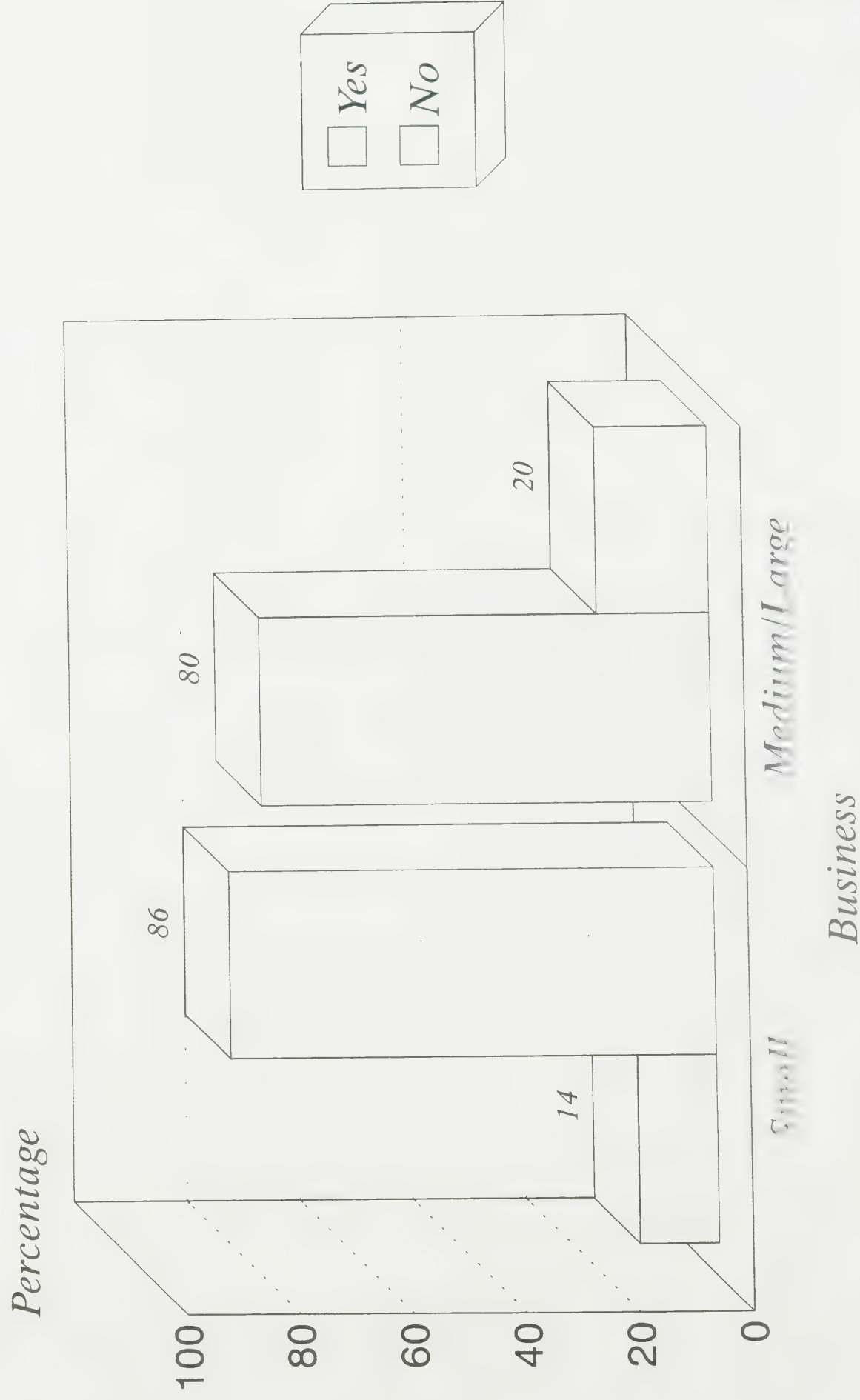
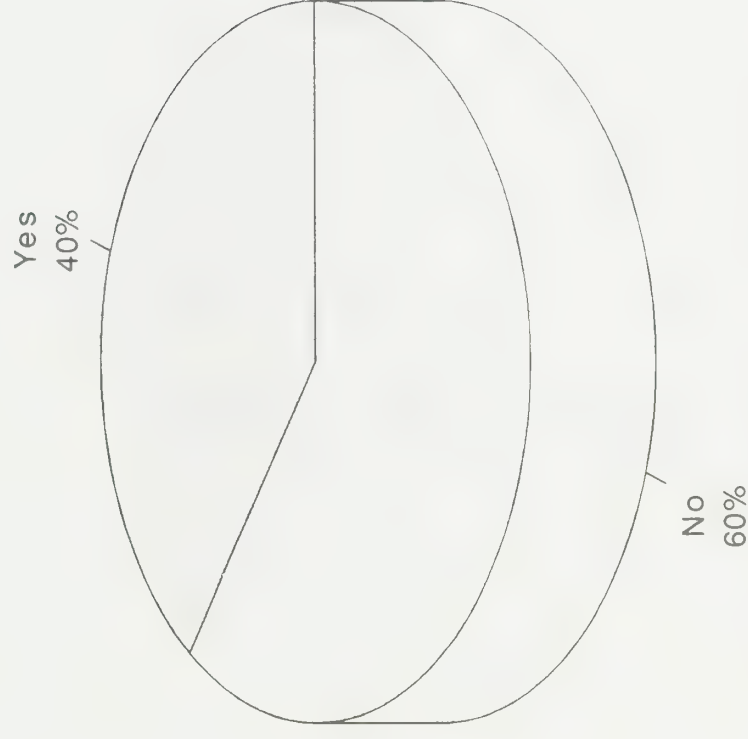
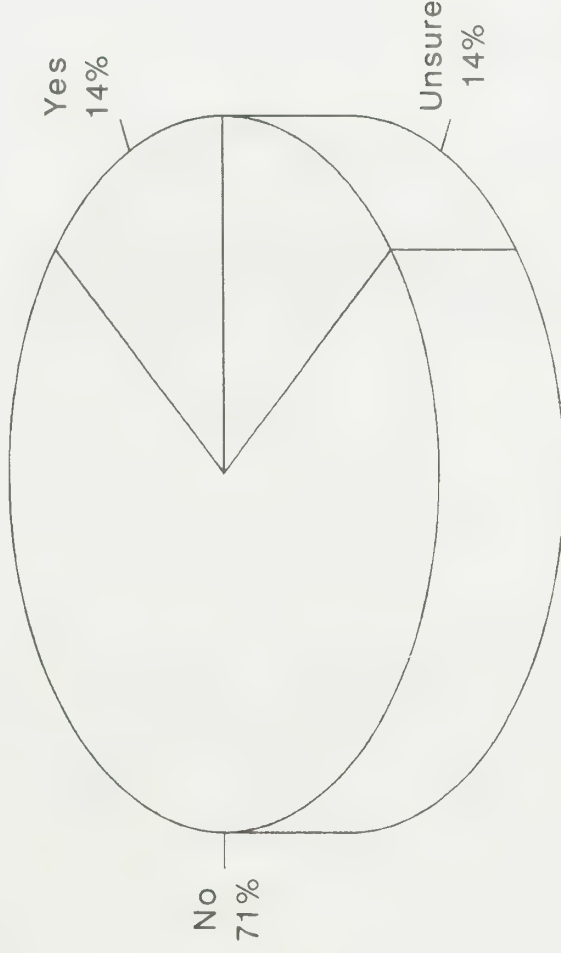


FIGURE ELEC 12

Employees Who Have Attended Seminars Or Courses Related To The Environment



Medium/Large Business



Small Business

☐ Yes ☐ No ☐ Unsure

Small companies (Figure Elec 13) and medium-large firms (Figure 14) were widely divergent in their degree of environmental concerns. With the exception of solid waste (86%) and recycling (86%) small businesses perceived few other pressing environmental concerns. Large-medium business, however, saw only water quality as a minor concern while all others were areas of concern for 60% - 80% of the surveyed companies.

Does your business participate now or have future plans for:

Reduction Re Use Recycling Material Substitution Initiatives

This question was asked to determine the involvement of business in the most common of environmental practices.

With the exception of recycling, there was another wide gap between the involvement of small and medium-large business in these environmental activities (Figure Elec 15). The lack of involvement by small in businesses in reduction and re-use is surprising given the extensive promotion of the three R's. It also indicates a need for greater awareness among small business as reduction, re-use and material substitution are important elements of any long term sustainable development.

Does your company require suppliers to comply with environmental practices?

This question was asked to provide further indications as to whether environmental concerns are becoming a regular part of business practice.

There is little demand in the electronics sector for suppliers to comply with environmental practices (Figure Elec 16) from either the small or medium-large

FIGURE ELEC 13

Which Of The Following Areas Of The Environment Are Of Concern In The Operation Of Your Business

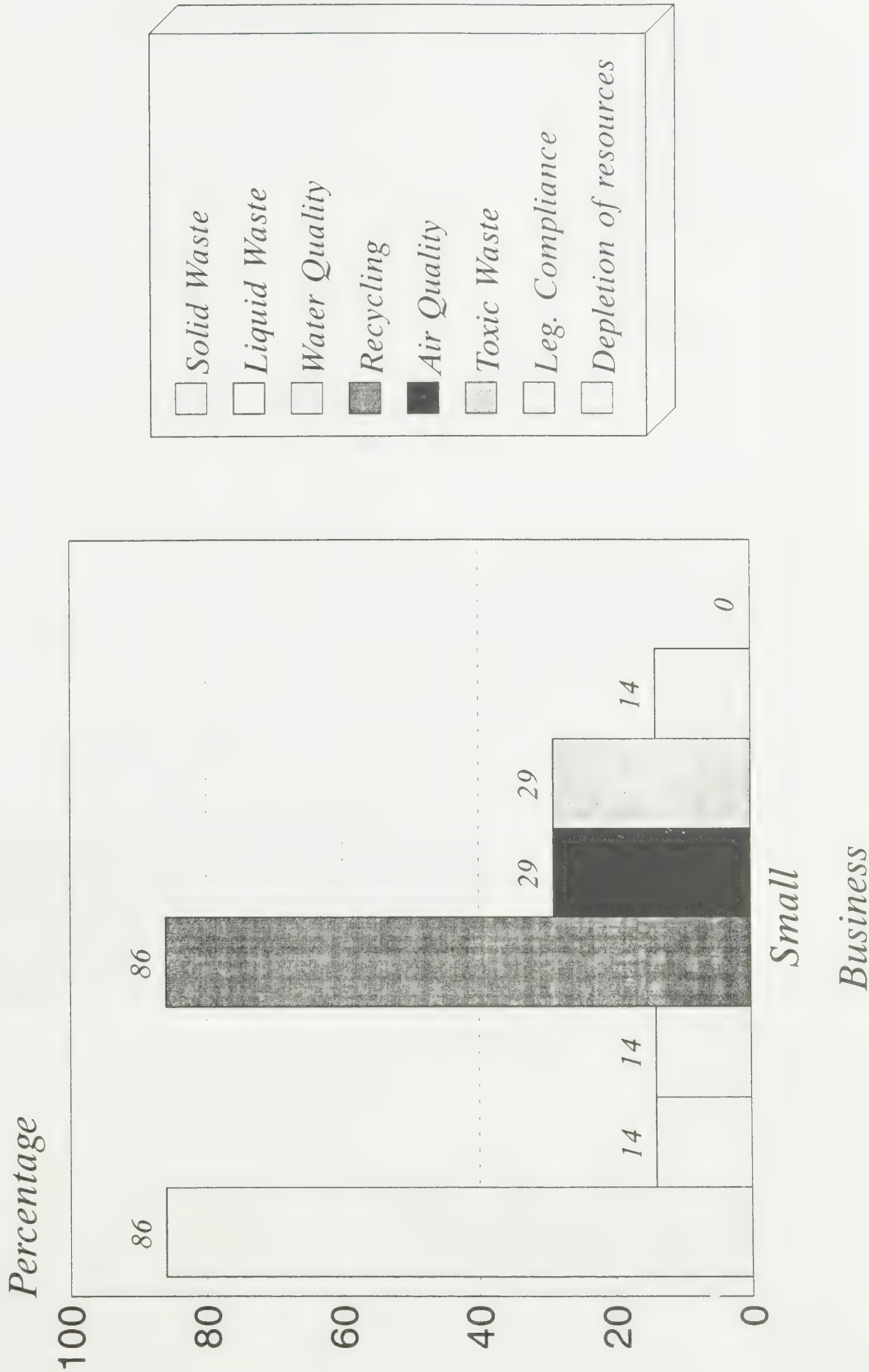
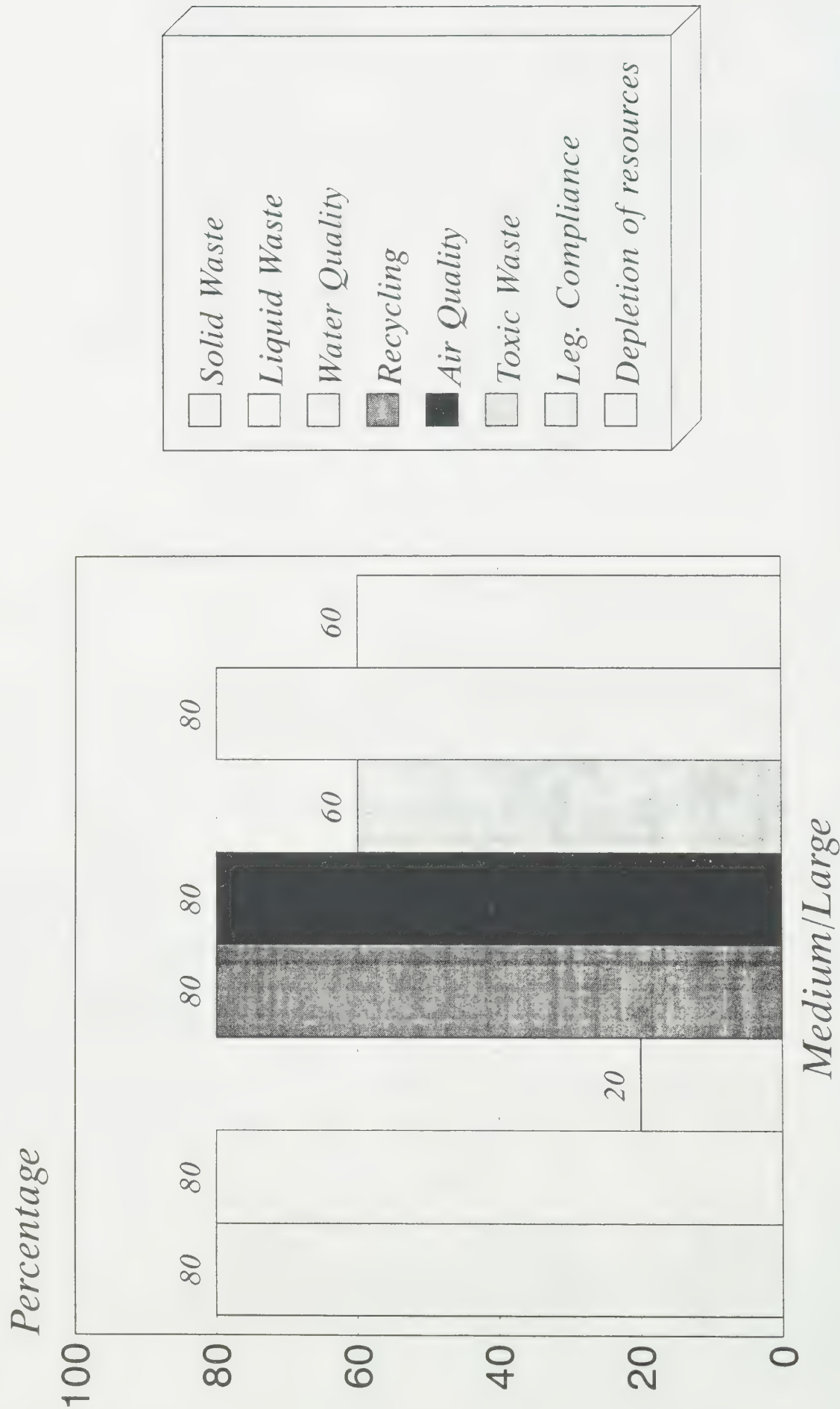


FIGURE ELEC 14

Which Of The Following Areas Of The Environment Are Of Concern In The Operation Of Your Business



Current Or Future Business Participation in Reduction, Re-Use, Recycling & Material Substitution

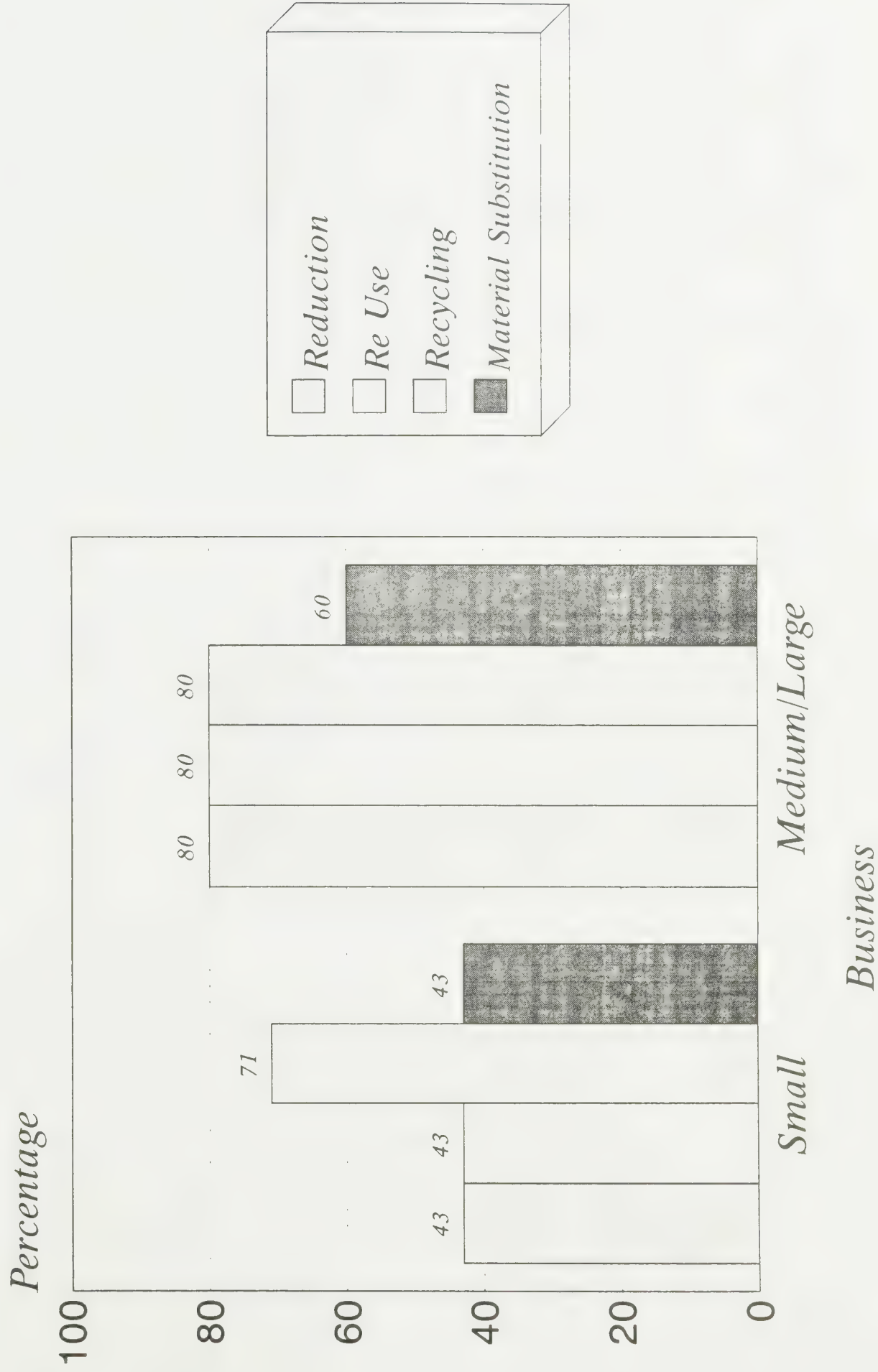
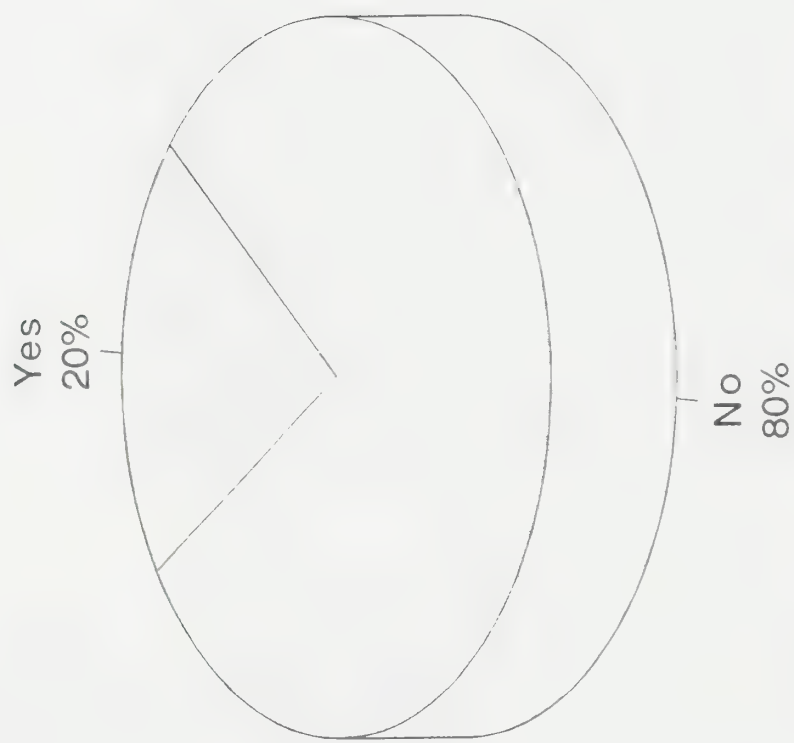
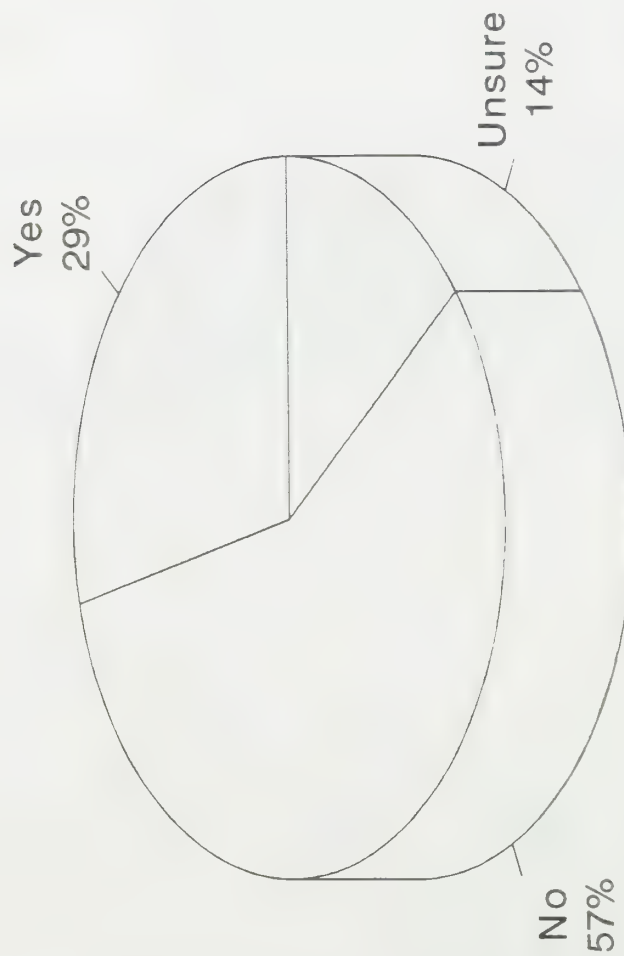


FIGURE ELEC 16

Does Your Company Require Suppliers To Comply with Environmental Practices



Medium/Large Business



Small Business

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
------------------------------	-----------------------------	---------------------------------

companies surveyed.

Which of the following aspects of environmental legislation are most difficult for your business?

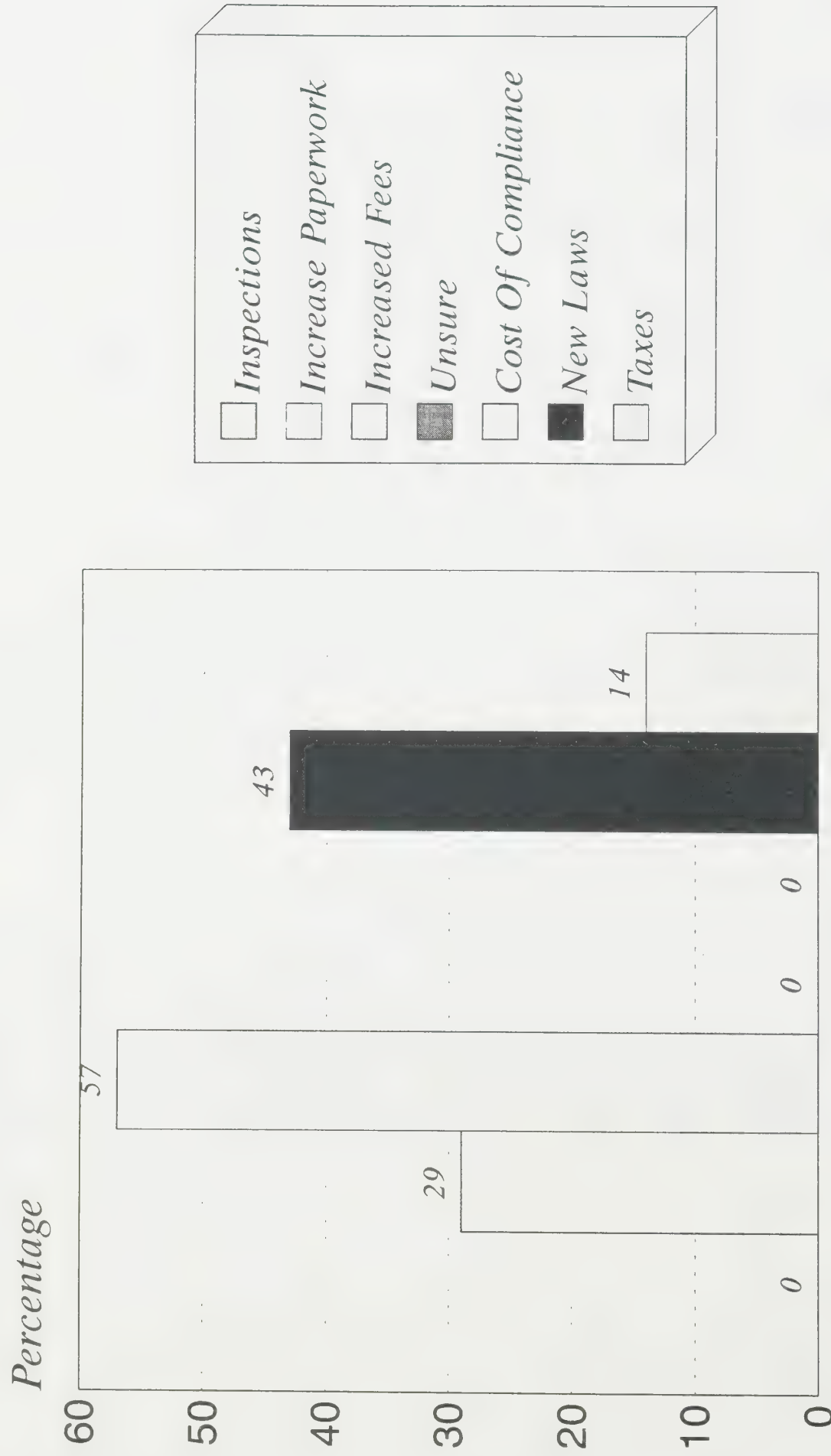
This question was asked to identify areas of compliance and compliance related issues with which business was experiencing the most trouble.

Across the board, small business (Figure Elec 17) was encountering much less difficulty in dealing with aspects of environmental legislation as compared to medium-large business (Figure Elec 18). Small business saw only increased fees (57%), keeping abreast of new laws (43%) and increased paperwork (29%) as areas of difficulty while medium-large business saw increased paperwork (80%), increased fees (80%), keeping abreast of new laws (80%), cost of compliance (60%), inspections (60%) and taxes (40%) as creating difficulty.

It appears that businesses within the electronics sector view environmental compliance as time consuming (increased paperwork, keeping abreast of new laws) and costly (increased fees). What is needed is a more proactive, as opposed to punitive, approach to environmental adaptation. Small business, in the tactile skill areas in particular, begin operations to be able to apply their learned skills. New means need to be developed to assist them in dealing with an increasing amount of information that will aid them in complying. Governments must look at what they are doing to help with the increased paperwork they are demanding. They must also help business keep abreast of new legislation on business terms and in their own language. This is not to say that the

FIGURE ELEC 17

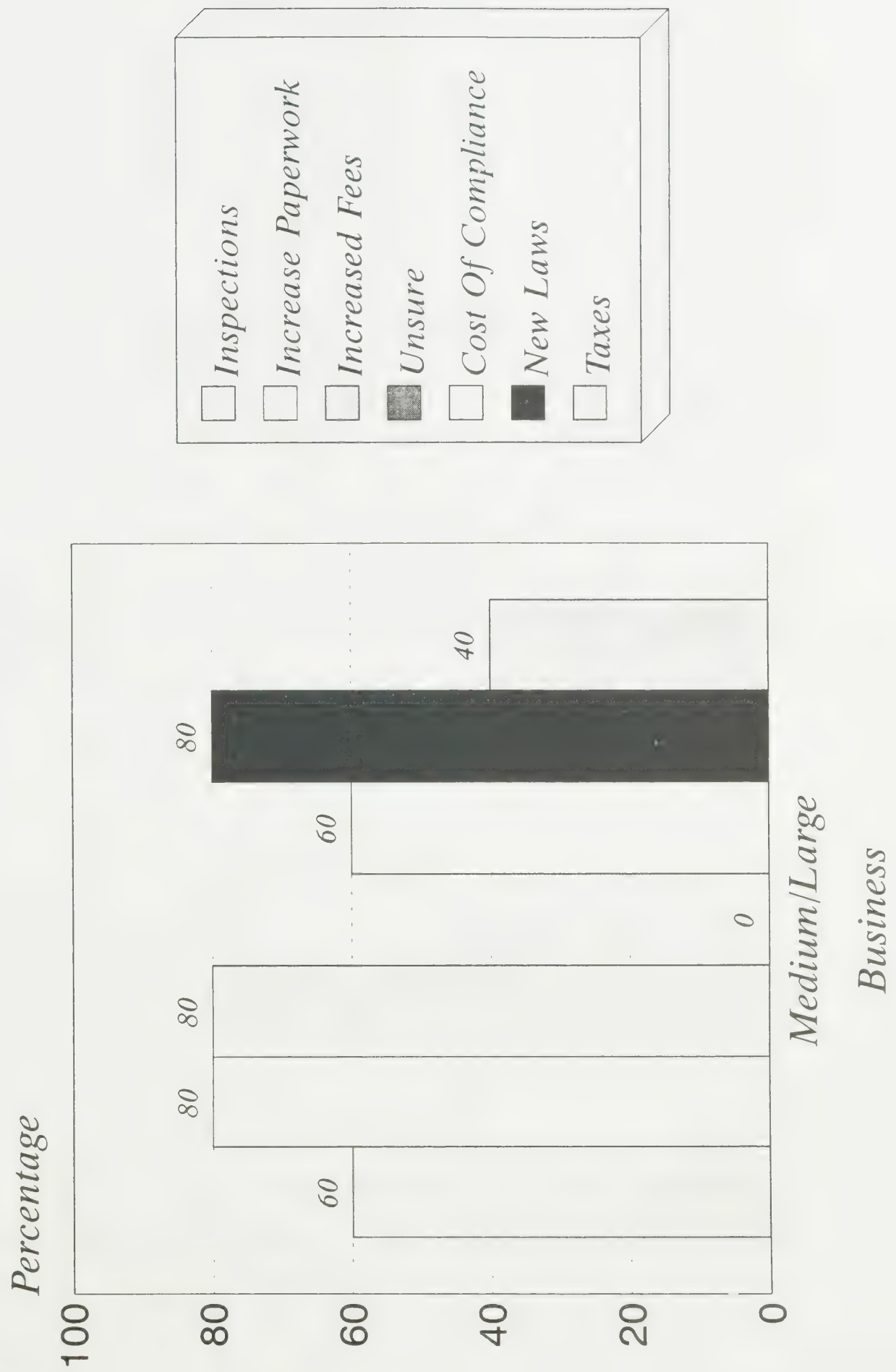
Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business



*Small
Business*

FIGURE ELEC 18

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business



environmental agenda should be catered to business, but in areas where there is going to be a direct impact on business, governments should assist business in acquiring the skills necessary to conform.

What type of environmental training do you feel would benefit your company most?

This question was asked to determine the immediate and specific skill requirements of business in areas relating to the environment. Twelve choices were given.

Small business saw material substitution (57%), disposal alternatives (57%) and hazardous waste management training (29%) as being the most beneficial (Figure Elec 19). In medium-large companies 80 per cent of the firms surveyed felt they could benefit from legislative compliance, material substitution and disposal alternatives training, 60 per cent viewed deriving a benefit from training in air quality, financial planning and technological innovations in their operation (Figure Elec 20).

In the medium-large companies in particular, results indicate a high need for environmental training. This can be seen as reflective of a number of factors including, but not limited to, the necessity of compliance, protection of the in-house and general environment, enhancement of various operations, an increase in workplace safety and the potential for a "green" marketing tool.

What is the largest barrier to environmental training of your staff?

This question was asked to determine what was preventing business from going forward with training that it needs. Eight options were provided.

FIGURE ELEC 19

Environmental Training That Would Benefit A Company The Most

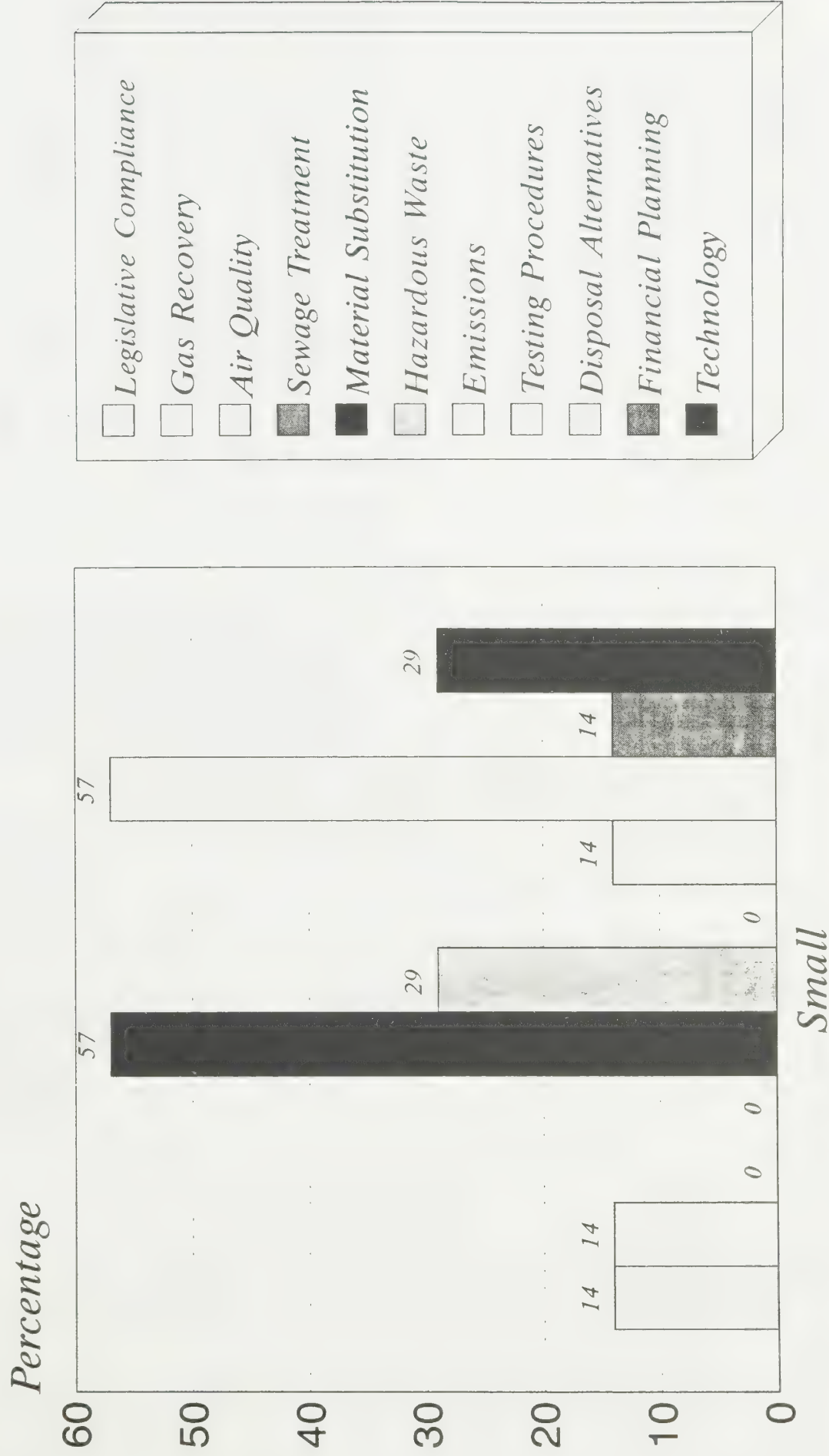
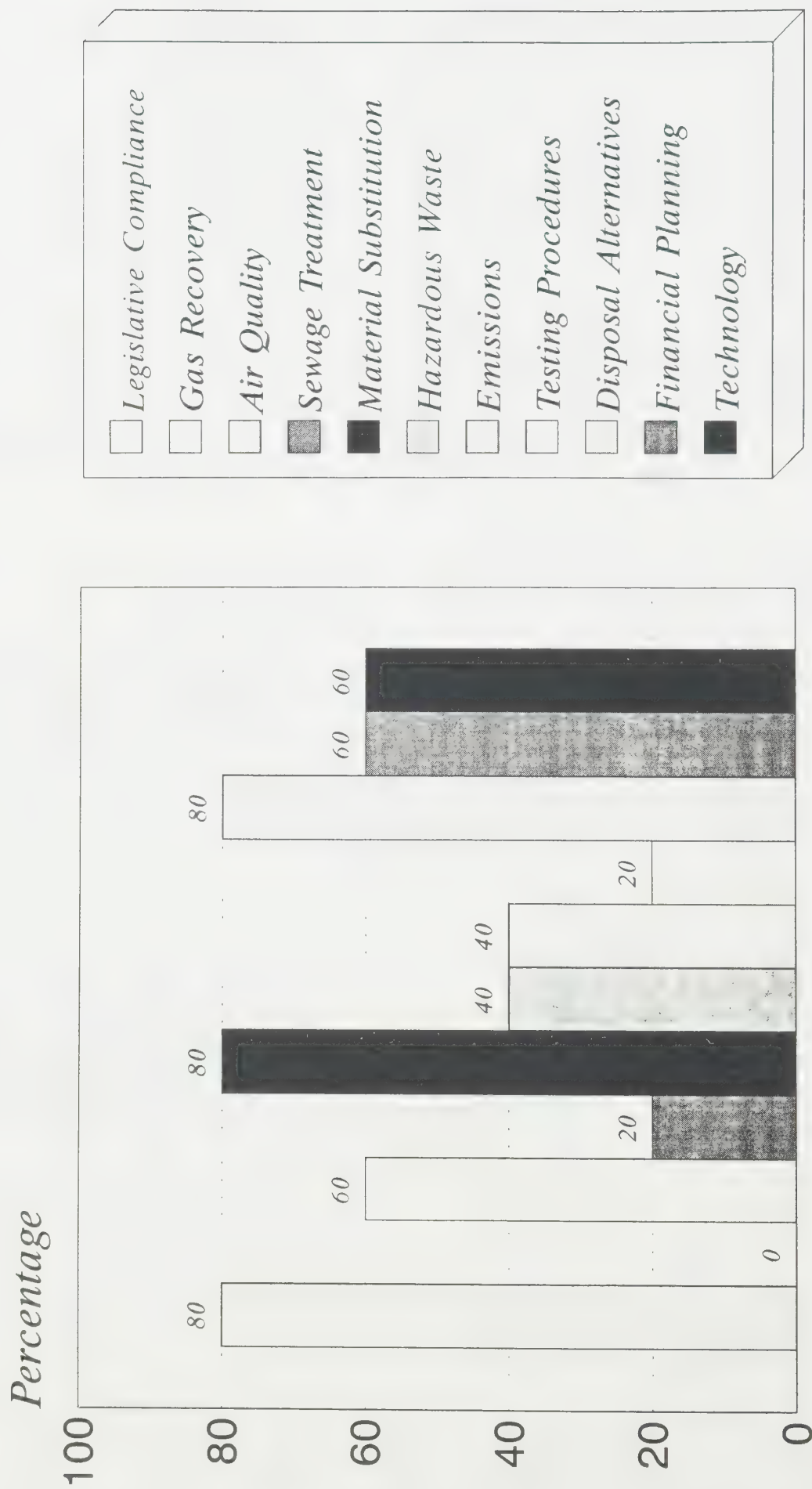


FIGURE ELEC 20

Environmental Training That Would Benefit A Company The Most



In the electronics sector small business and medium-large business indicated a combination of information and financial impediments as their barriers to training.

Seventy-one per cent of small businesses said a lack of financial assistance was their greatest barrier followed by a lack of technical knowledge (57%), a difficulty in assessing needs (57%), a lack of information about training (43%), unable to give time off for training (43%), the training required was unavailable (29%) and a lack of management support (29%) (Figure Elec 21). Medium large businesses indicated a lack of financial resources (60%), a difficulty in assessing needs (60%), a lack of information about training (60%), the inability to give time off for training (60%) and a lack of technical knowledge (40%) as it's training barriers (Figure Elec 22).

While business is feeling the need to adapt and comply environmentally it is also feeling caught by an inability to dedicate resources and determine what training is needed. As the enactors of new environmental laws or requirements it is incumbent upon government to ensure that the ability to not only comply, but to anticipate change be made available to business in a cost effective fashion. It should also be made available in a format that highlights the advantages of environmental adaptation and focuses less upon punitive measures.

When involved in training which type of format do you prefer?

This question was asked to determine what training times most suited business needs. Six options were presented.

FIGURE ELEC 21

Largest Barrier To Environmental Training For The Staff

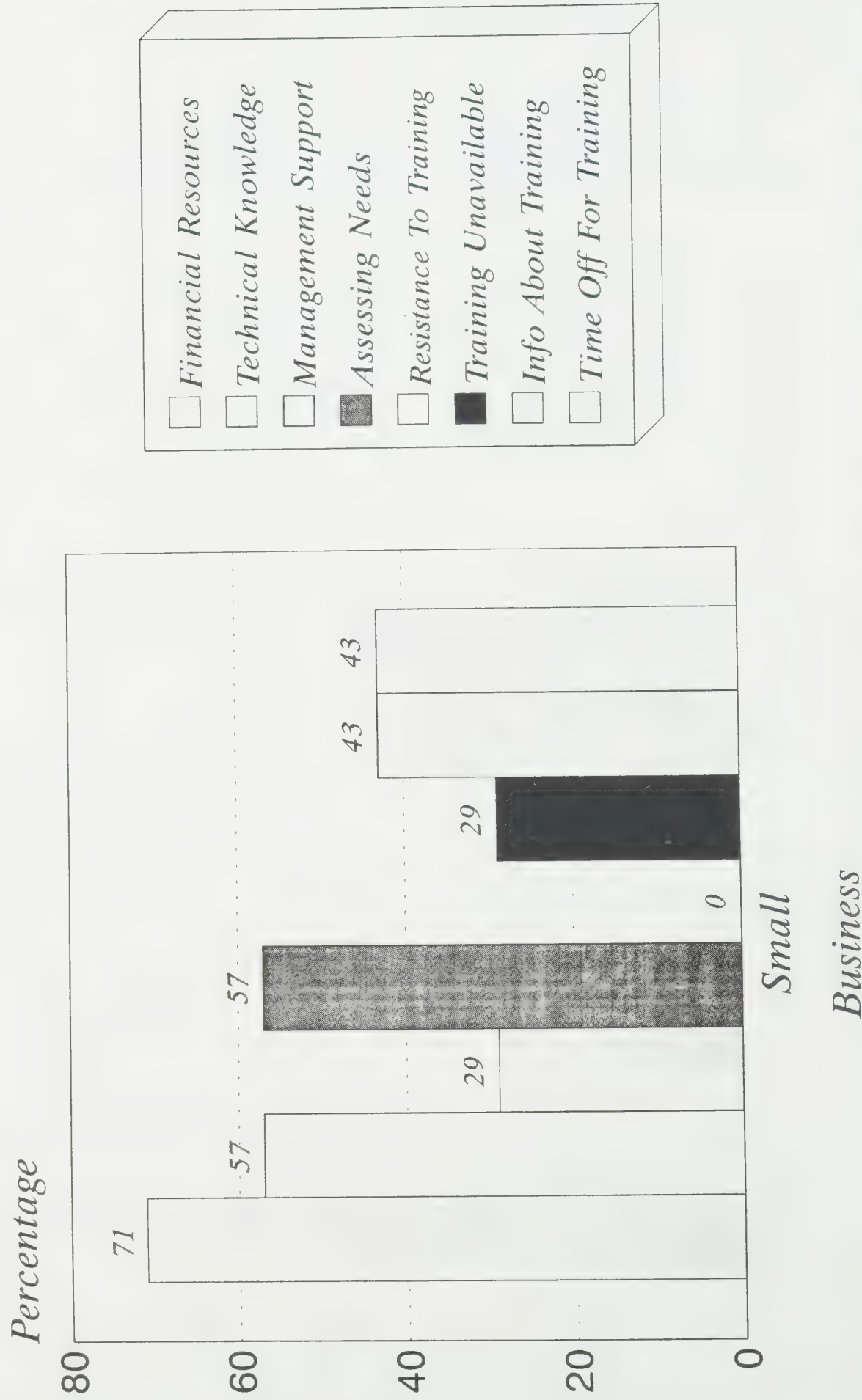
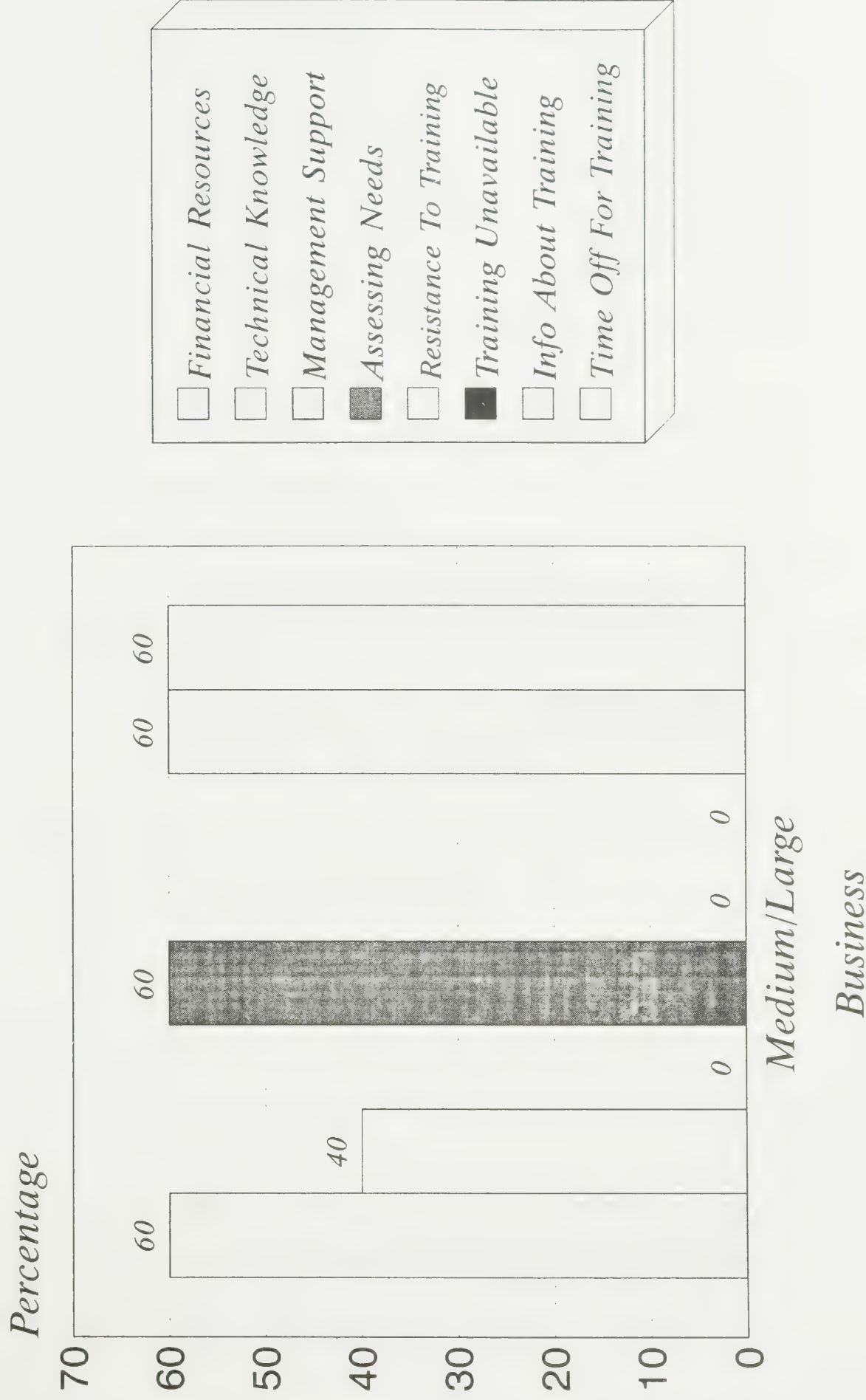


FIGURE ELEC 22

Largest Barrier To Environmental Training For The Staff



The seminar/workshop and on-site formats for training were preferred by 75 per cent of all survey respondents within the electronics sector and was the number one choice in both the small and medium-large business groups (Figure Elec 23). Evening courses (42%), half a day per week (25%), a half week course (25%) had some support, while no business wanted fulltime training.

Training formats which are short and have the least impact on the daily operation of business remain the preferred choice and are consistent with indicated barriers to training such as the inability to give personnel time off and lack of financial resources. It is important to recognize that in the operation of a small business in particular, where the absence of personnel is more profoundly felt, it is essential that training formats and systems be developed and adapted to meet their reality.

Do you foresee a need to hire graduates from an environmentally related course?

This question was asked to determine which businesses were breaking out environmental responsibilities as distinct occupations.

None of the employers in the small-medium business group and only one employer in the small group saw a need to hire an environmental specialist (Figure Elec 24).

None of the employers surveyed in the automotive service sector saw a need to hire an environmental specialist. Within the industry it is not viewed as a specific skill, but is incorporated into a series of different occupations. This increases the importance of

FIGURE ELEC 23

When Involved In Training Which Type Of Format Do You Prefer

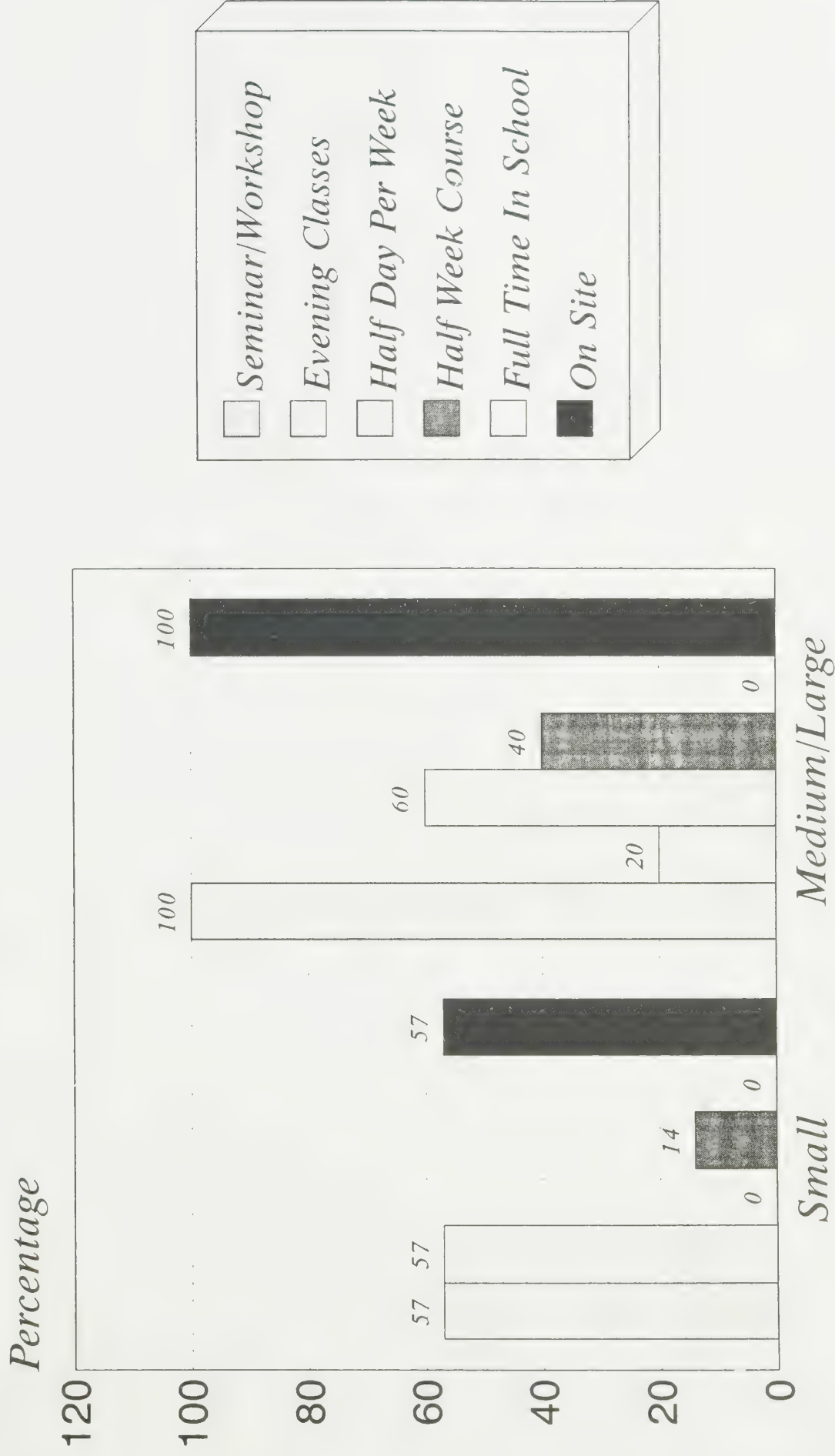
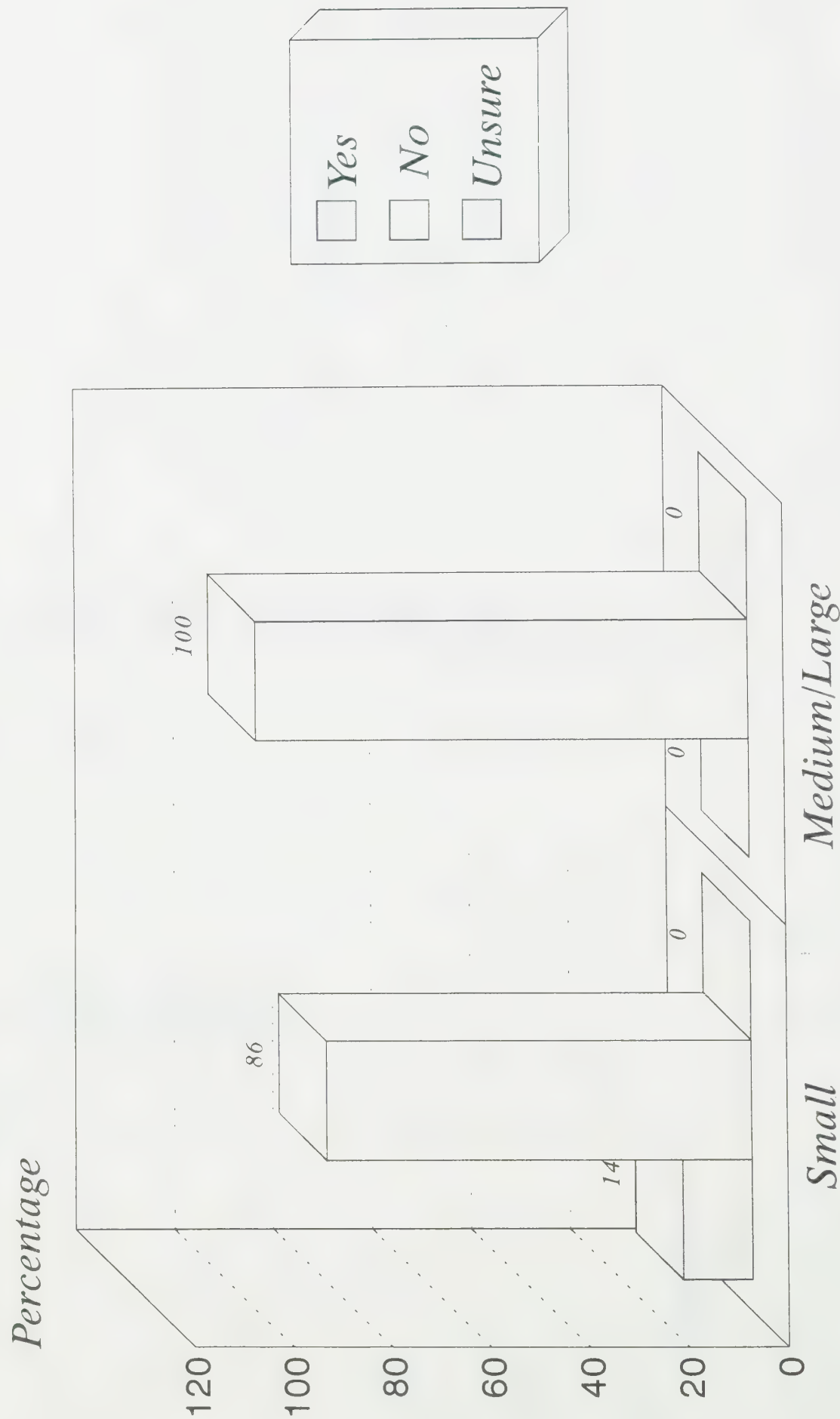


FIGURE ELEC 24

Do You Foresee A Need To Hire Graduates From An Environmentally Related Course



having environmental adaptation and practices incorporated into the training of mechanical skills used within the industry.

Did you find the information we provided helpful?

Did it influence any of your answers after it was given to you?

These questions were asked after tranSKILLS conducted and presented research into the environmental impact on the industry as determined by environmental experts. We were attempting to determine whether new ways of collecting labour market information would enhance business without adversely effecting survey results.

Information sheets were not provided in the electronics sector.

Environmental

tranSKILLS interviewed 14 owners/managers of local environmental companies representing five per cent of the total survey population of 317 interviews. Ten, or 71% of the firms interviewed were small companies with 1-20 workers while four or 29% were with medium firms employing 21-99 employees. This sector was also interviewed prior to this survey being conducted in order to pull together the environmental impact fact sheets provided to the other surveyed sectors. This group is largely made up of environmental consultants, labs and recyclers. Survey results are based on in-house activities in areas related to the environment. All surveys were conducted in person.

Job Title: Person on staff who perform environmental tasks.

Does your company have someone on staff in charge of environmental issues?

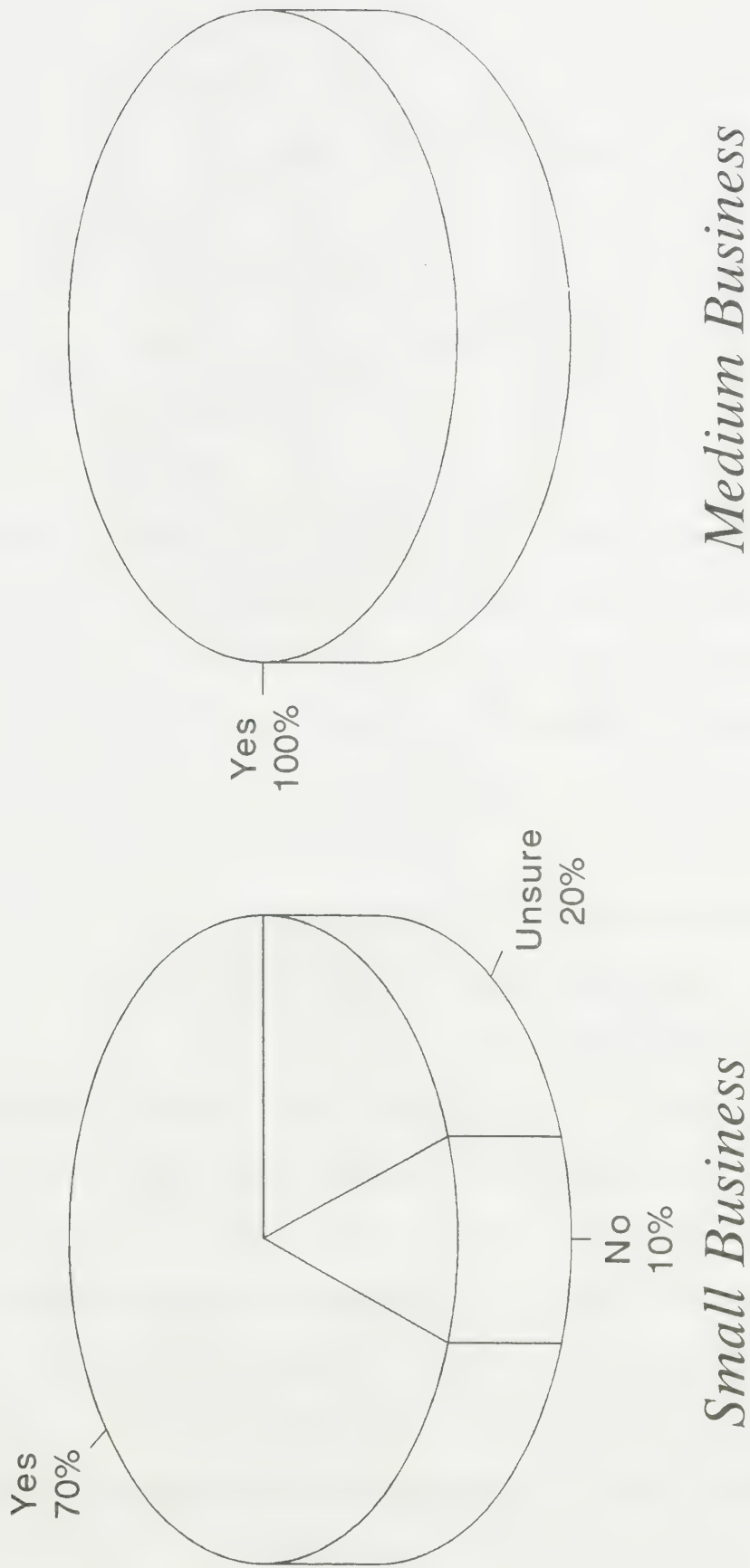
These questions were asked to determine if companies were assigning specific environmental duties to workers and whether someone was ultimately responsible for the environment within a workplace. We hoped to determine if there was one occupation to which the responsibility of environmentally related tasks fell.

In the environmental sector 23 occupations in 14 companies were listed as performing environmental tasks. In total 79 per cent of companies had someone on staff in charge of environmental issues, 14 per cent were unsure and seven per cent had no one in charge of environmental issues (Figure Env 1).

This appears to indicate that environmental responsibilities have been integrated into each

FIGURE ENV 1

Does Your Company Have Someone On Staff Who Is In Charge Of Environmental Issues



☐ Yes ☐ No ☐ Unsure

job function. By not separating out environmental tasks into separate job functions it becomes easier for employees to adapt to environmental changes and comply with new regulations as they were able to spread the newly created workload among staff. However, even with companies working in the environment there is a concern that if the environmental functions do not become a part of a specific job description, or are not given priority, they may become lost.

These results reflect an opportunity to begin incorporating environmentally sound practices into each component of training within this sector. As each separate occupation within environmental companies appears responsible for its own in-house environmental practices, then it is important that a proper understanding of those practices, including both legislative compliance and environmental adaptation be included in all training offered.

How many people overall have been hired in the last year?

How many people do you need to hire today?

Have you had any difficulty in hiring?

Do you anticipate any new hires over the next 12 months due to growth?

Do you anticipate any new hires over the next 12 months due to staff replacement?

These questions, which appeared in different parts of the survey, have been placed together as they reflect the past and future growth of the sector surveyed. They also assist in anticipating any future needs and potential difficulties in meeting those needs.

A total of nine jobs were lost in the surveyed environmental sector last year. However,

while four companies hired 23 people, lay-offs in two companies totalled 32 workers. One medium sized company indicated a need to hire five people when this survey was conducted. In total, 29 per cent of companies were experiencing hiring difficulties, primarily due to the specialization of the work required. Over the next year, 60 per cent of small businesses and all of the medium sized companies indicate they will be growing (Figure Env 2) while 30 per cent of small firms and 50 per cent of medium companies indicate a need to hire new people due to staff replacement (Figure Env 3).

Despite being acknowledged as a major growth industry the environmental sector was not immune to the impact of the recession, although employee growth did occur in more companies (four) than job losses (two). Surveyed companies substantiated this sector as one of great growth as a large majority of companies, small and medium, indicate they will be creating new jobs over the next 12 months. Filling those positions may prove harder as almost 30 per cent of surveyed companies have had trouble finding people. This is reflective of historical difficulties of finding people in a new skill area and emphasizes the need for increased training in the environmental skill areas.

How many people on your staff require skills upgrading?

What are the skills your staff need in order to meet the current and future needs of your industry?

These questions were asked to determine the extent and type of training required?

Overall, 71 per cent of surveyed companies indicated all or some of their staff needed to be upgraded (Figure Env 4). The skills being asked for were extremely varied with 43

FIGURE ENV 2

Do You Anticipate Any New Hires Over The Next 12 Months Due To Growth

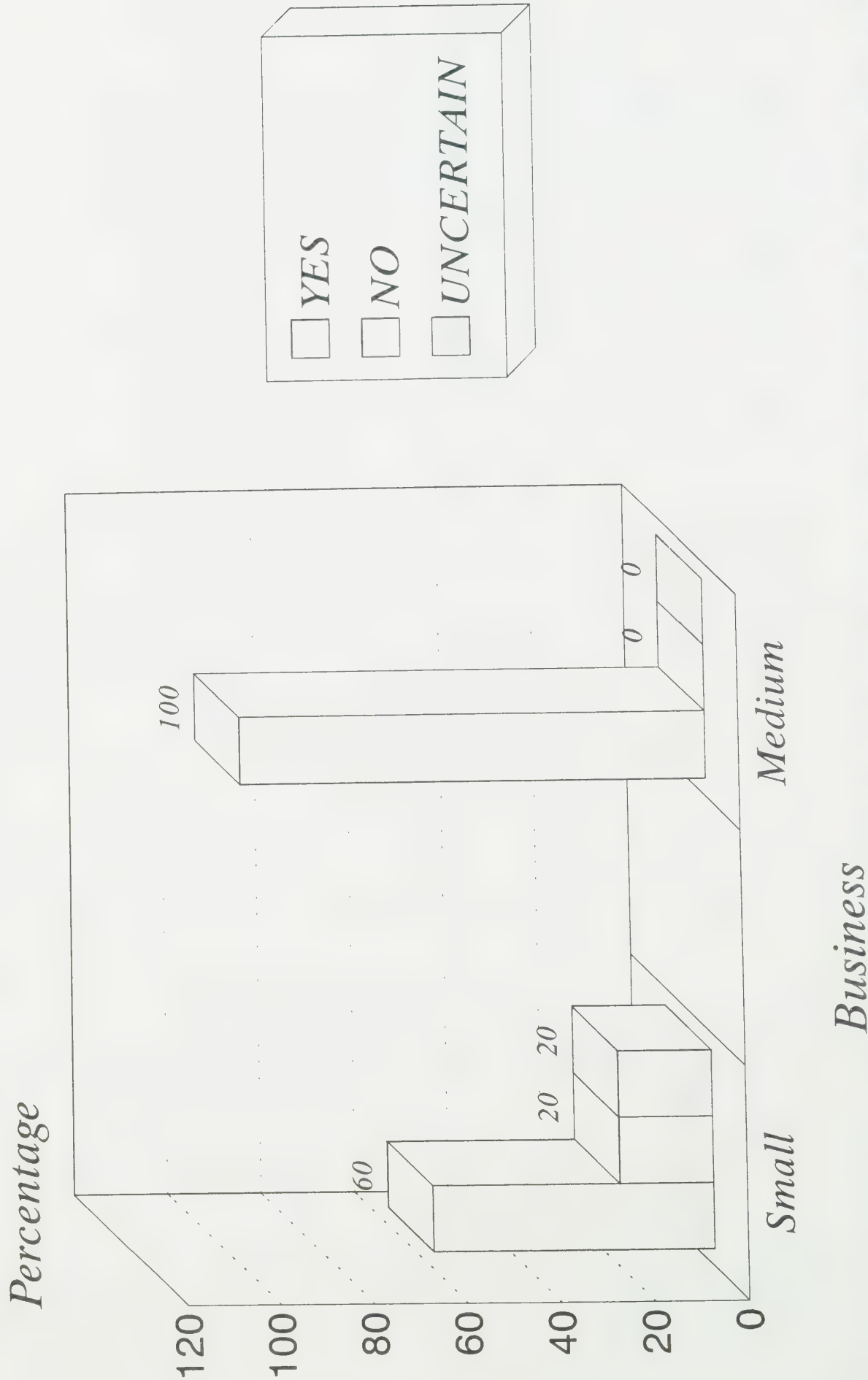


FIGURE ENV 3

Do You Anticipate Any New Hires Over The Next 12 Months Due To Staff Replacement

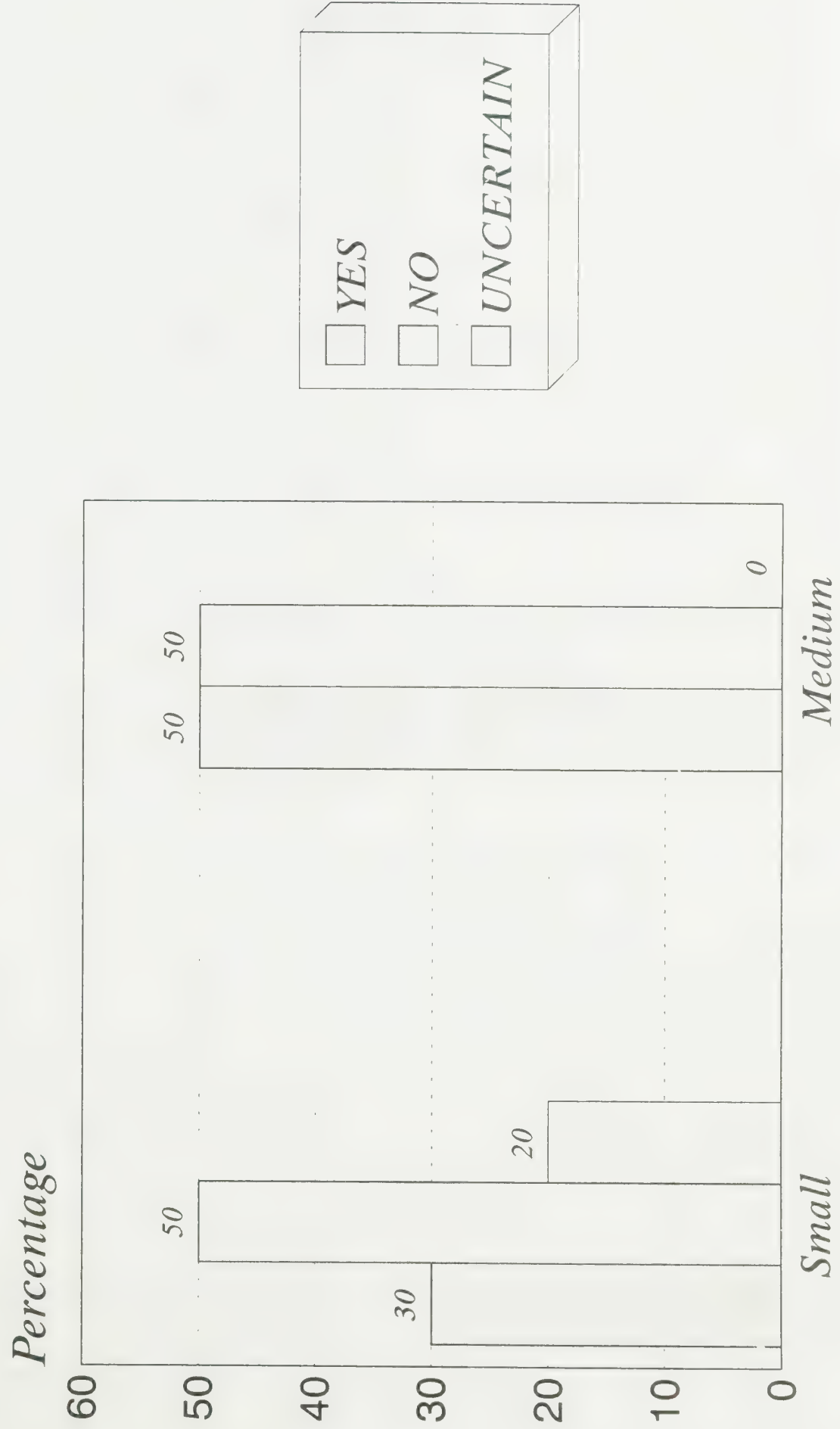
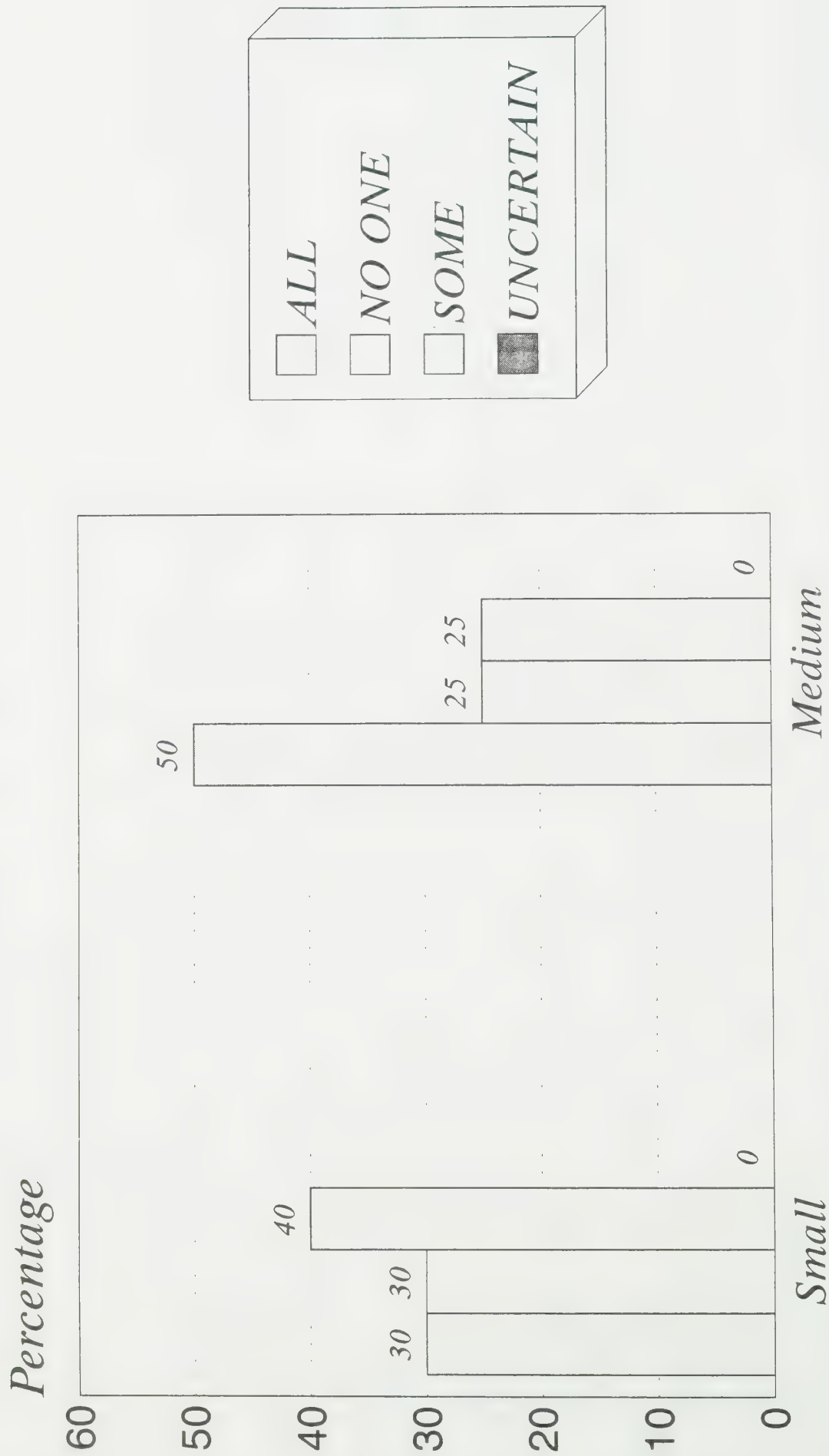


FIGURE ENV 4

How Many People Of Your Staff Require Skills Upgrading



Business

distinct training requirements being made.

Do you plan on introducing new equipment next year?

What kinds of equipment?

What impact will this equipment have on the skill requirements of the occupations affected?

Do you plan on introducing new processing methods?

Can you describe the impact these new processing methods will have on the skill requirements of those affected?

To what extent do you expect technology to impact on your business in the next 2 to 3 years?

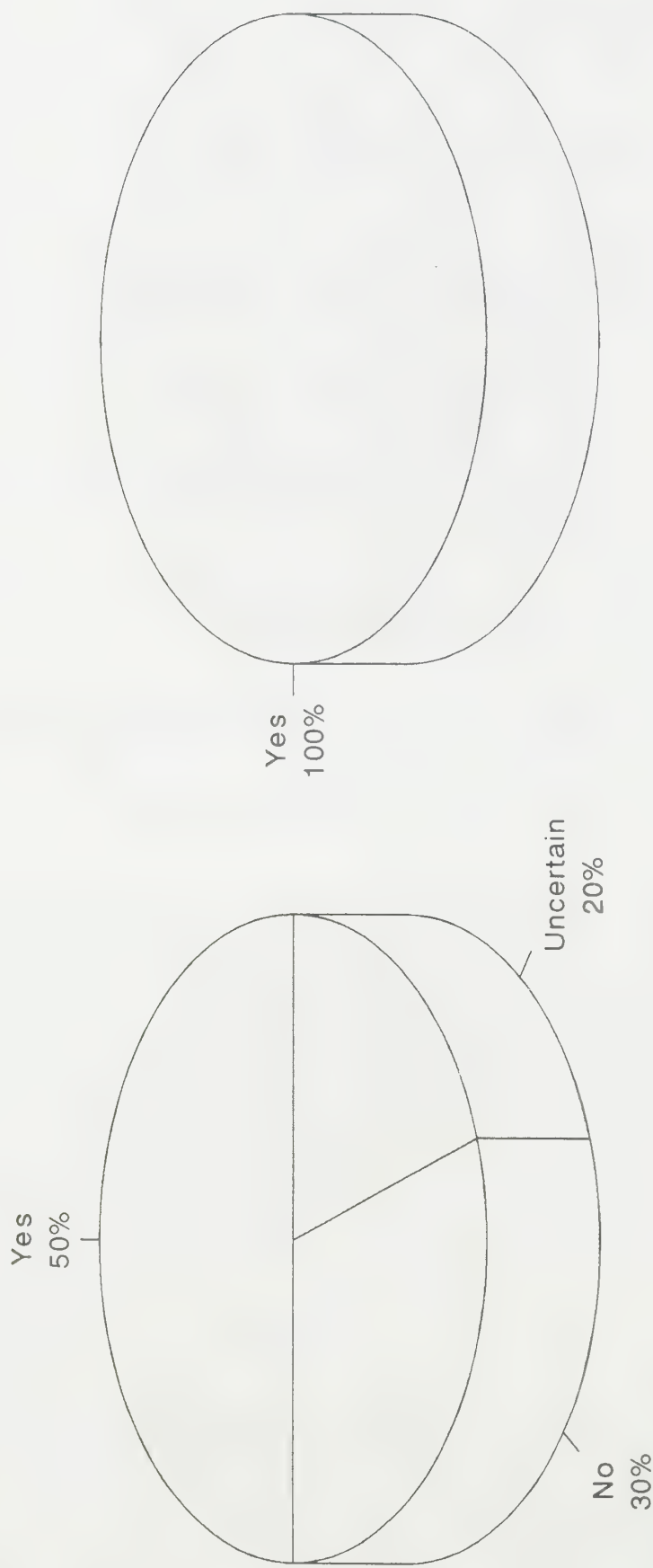
These questions were asked to determine the extent of change in each sector and the awareness of the effects that change will have.

The introduction of new equipment will take place in 50 per cent of small companies and all of the medium firms surveyed (Figure Env 5) while new process will be introduced in 40 per cent of small firms and 75 per cent of medium companies (Figure Env 6). Overall, 71 per cent see the introduction of new technology having a moderate to very substantial impact on their business over the next two to three years, 14 per cent were unsure of the impact and 14 per cent said it would have only a minimal impact (Figure Env 7).

As a relatively new industry, the environmental sector has been subject to rapid change created predominately by public awareness and legislative demands. Due to the pace of

FIGURE ENV 5

Do You Plan On Introducing New Equipment Next Year



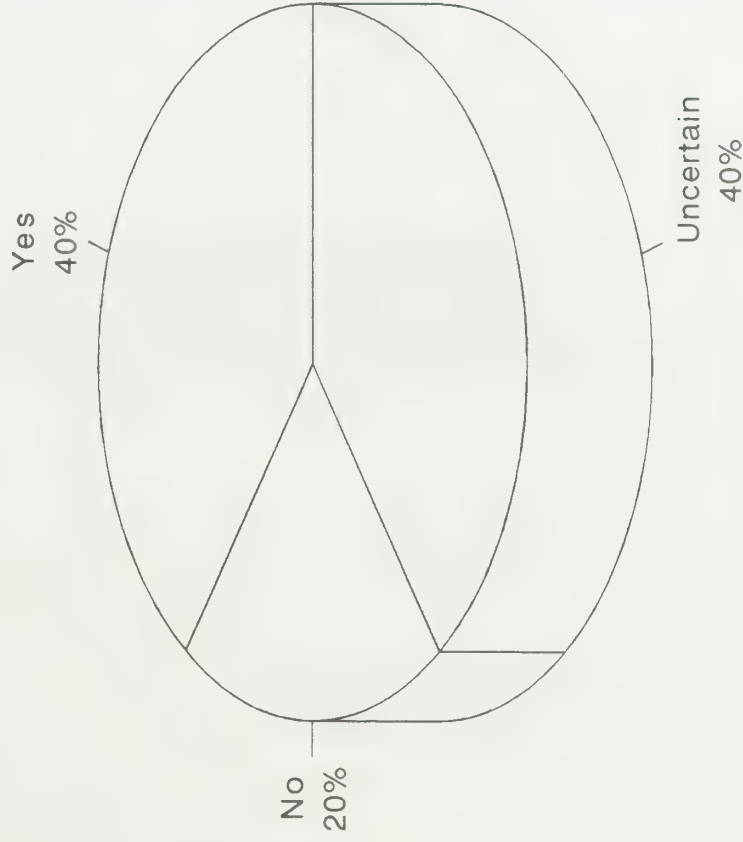
Small Business

Medium Business

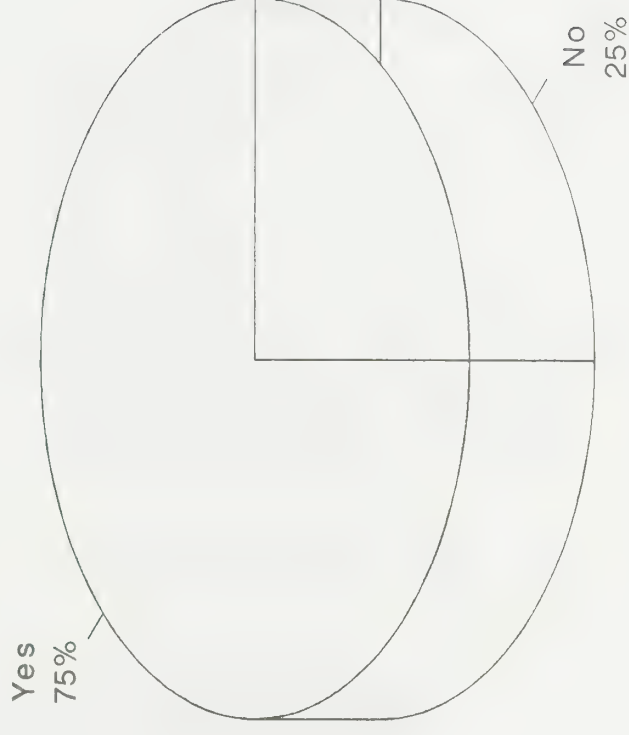
☐ Yes ☐ No ☐ Uncertain

FIGURE ENV 6

Do You Plan On Introducing New Processing Methods



Small Business



Medium Business

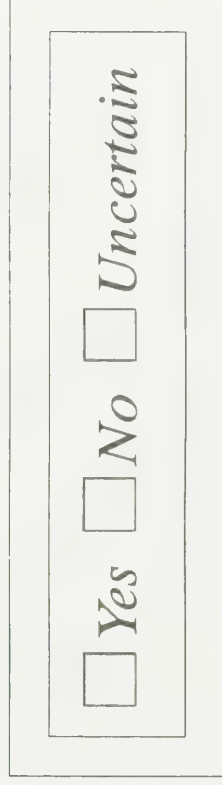
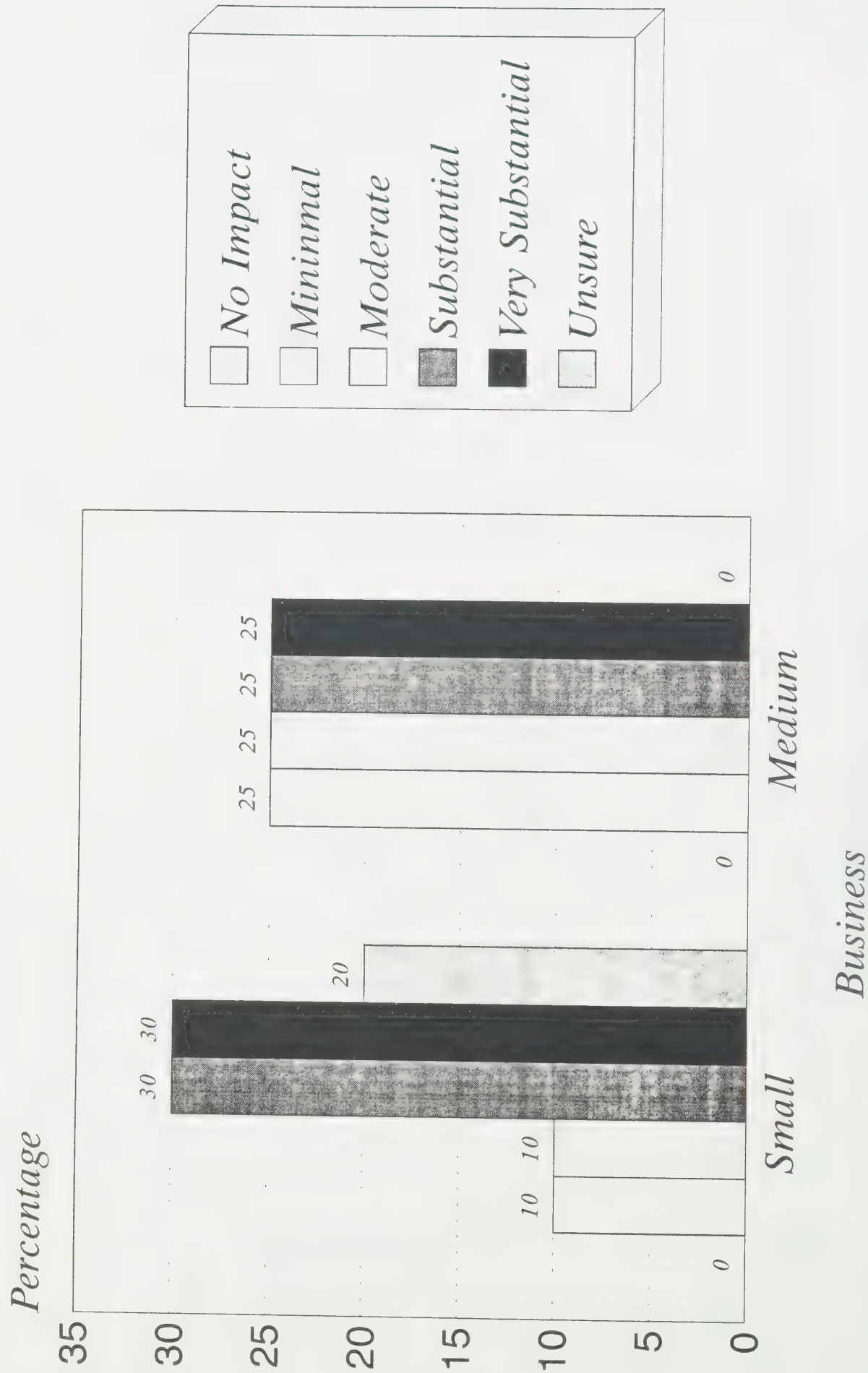


FIGURE ENV 7

Expected Technology Impact On Businesses Over The Next 2 To 3 Years



change, this industry has been required to react to a large amount of information in order to remain viable. The positive correlation between the introduction of new technologies and processes and the foresight to identify the impact these changes will have on skill requirements is reflective of this ability. It becomes clear that in a highly regulated industry such as the environment the necessity of having to deal quickly with information is an advantage when it comes to keeping pace with change, whether in the form of regulations, processes or technology.

Is your business currently regulated by an environmental government department?

Do any of your staff require environmental certification to perform their jobs at present?

Are any of your staff able to identify critical functions related to the environment?

Do you currently train your staff on environmental issues?

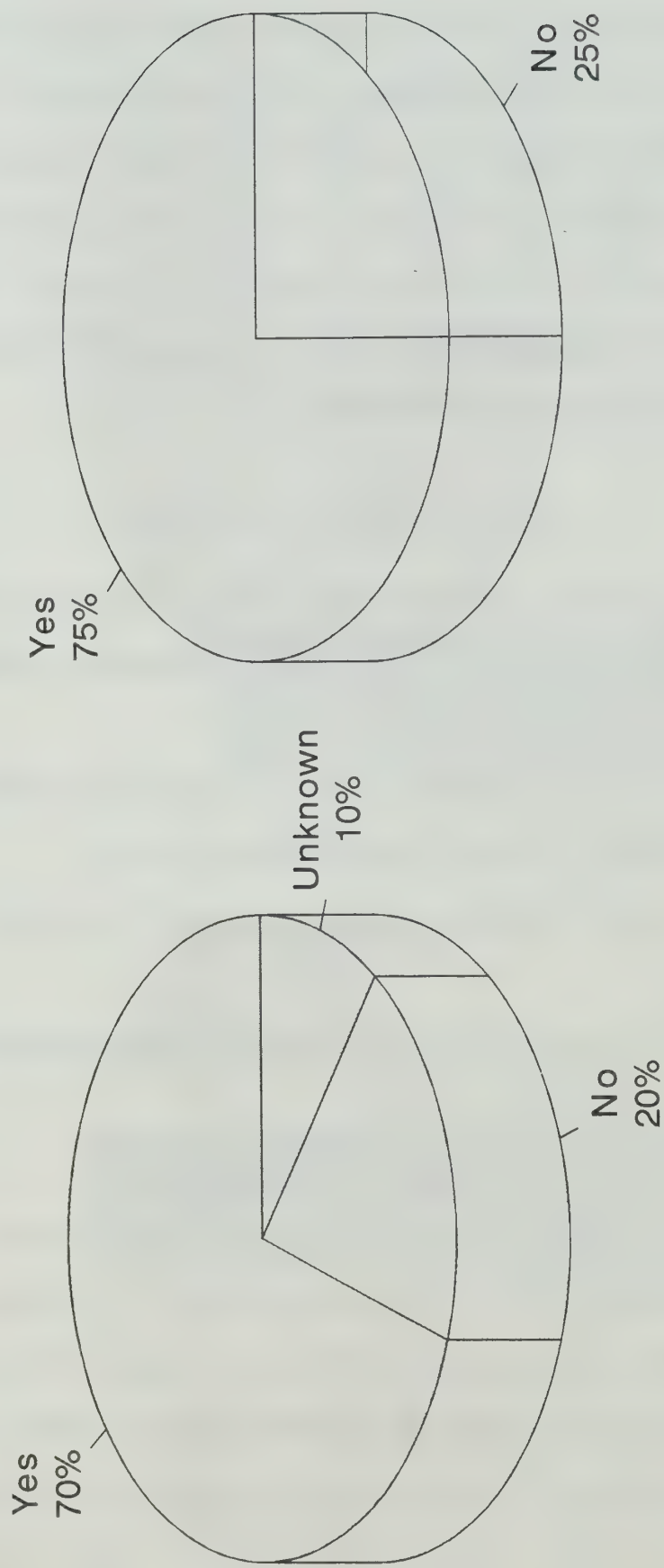
Have any of your employees attended seminars or courses related to the environment?

These questions were asked to determine the degree of business awareness and response regarding the environment.

In some form or another, all business can be subject to enforcement by an environmental branch of government at different levels. Seventy per cent of small businesses and 75 per cent of medium businesses indicated they were regulated (Figure Env 8) although only 20 per cent of small companies and 50 per cent of medium companies indicated some of their staff needed environmental certification in order to perform their jobs

FIGURE ENV 8

Is Your Business Currently Regulated By An Environmental Government Department



Medium Business

Small Business

☐ Yes ☐ No ☐ Unknown

(Figure Env 9).

A greater percentage of small companies (60%) and medium companies (75%) (Figure Env 10) had staff who were able to identify critical functions related to the environment. Staff training on environmental issues is now taking place in 60 per cent of small companies and all of the medium companies (Figure Env 11) while 70 per cent of small firms and all of the medium firms had previously had staff in a course related to the environment (Figure Env 12)

It is a positive sign within this industry that the environmental training that is taking place exceeds by a large margin the environmental certificates required for a worker to perform a task. As stated, the ability of the industry to handle information and technology appears to assist in the efficiency of responding to non-regulated needs.

Which of the following areas are of concern in the operation of your company?

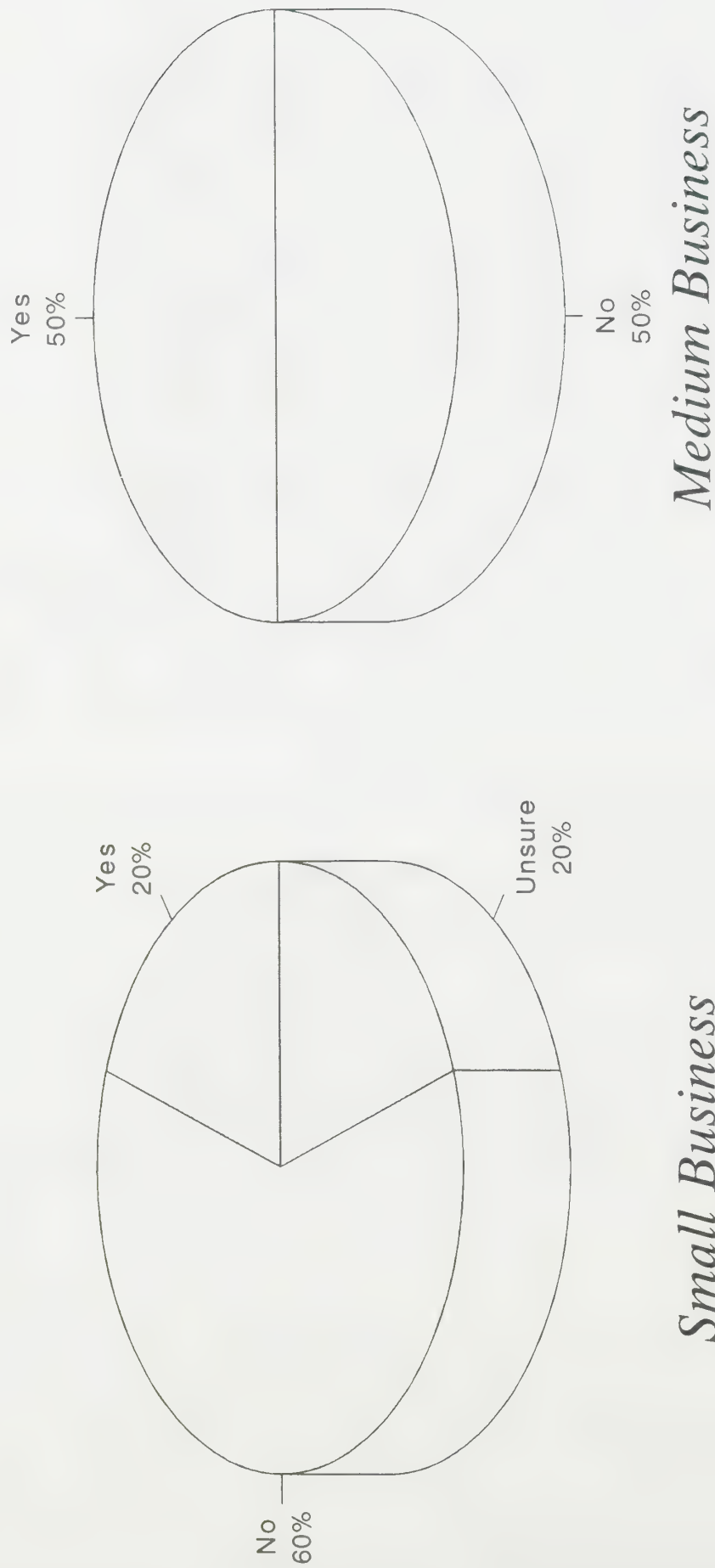
This question provided the company with eight choices and was asked to determine specific areas of environmental concern.

Legislative compliance (80%), solid waste (50%) and recycling were listed as the greatest concerns of small business (Figure Env 13), while solid waste (75%), recycling (75%) and depletion of natural resources (75%) concerned medium sized businesses (Figure Env 14).

Does your business participate now or have future plans for:

FIGURE ENV 9

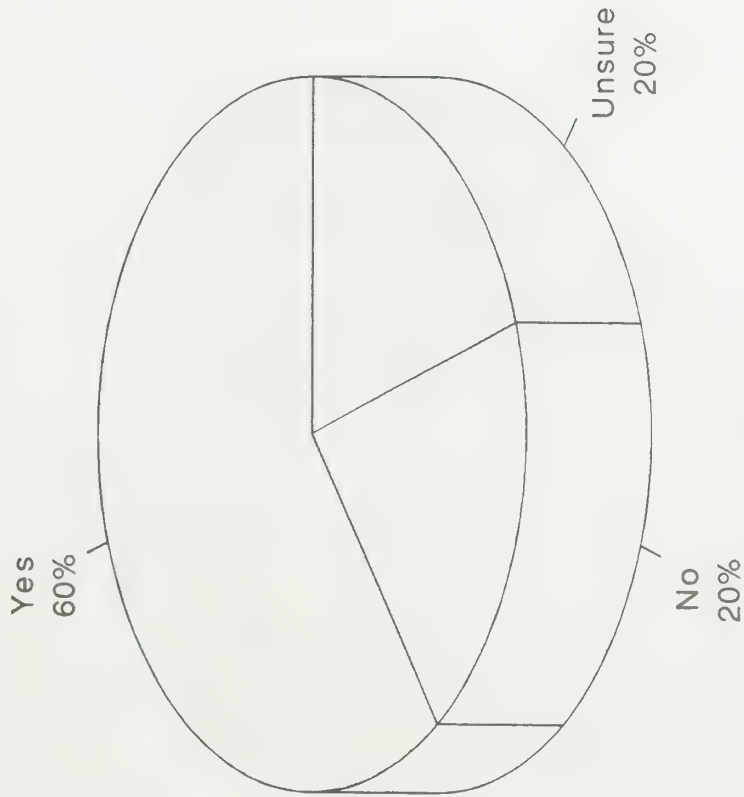
Do Any Of Your Staff Require Environmental Certification To Perform Their Job



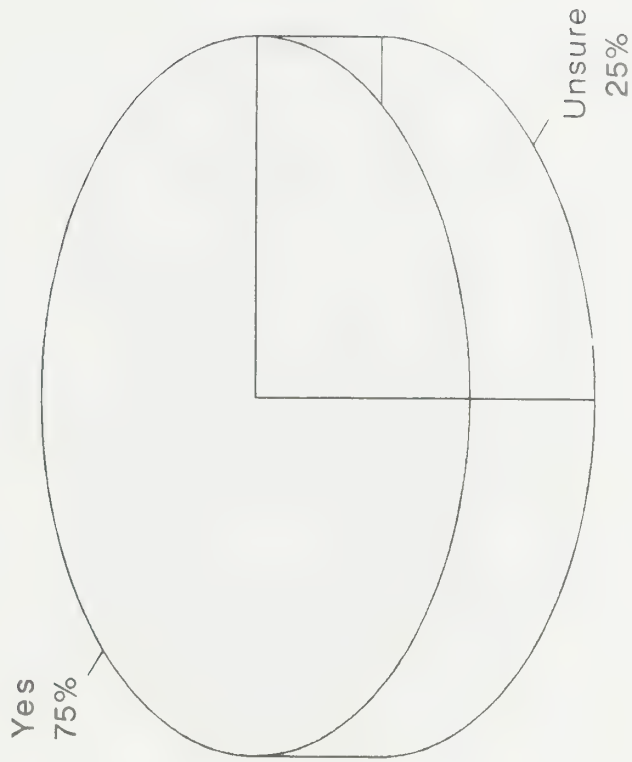
☐ Yes ☐ No ☐ Unsure

FIGURE ENV 10

Are Any Of Your Staff Able To Identify Critical Functions Related To The Environment



Small Business

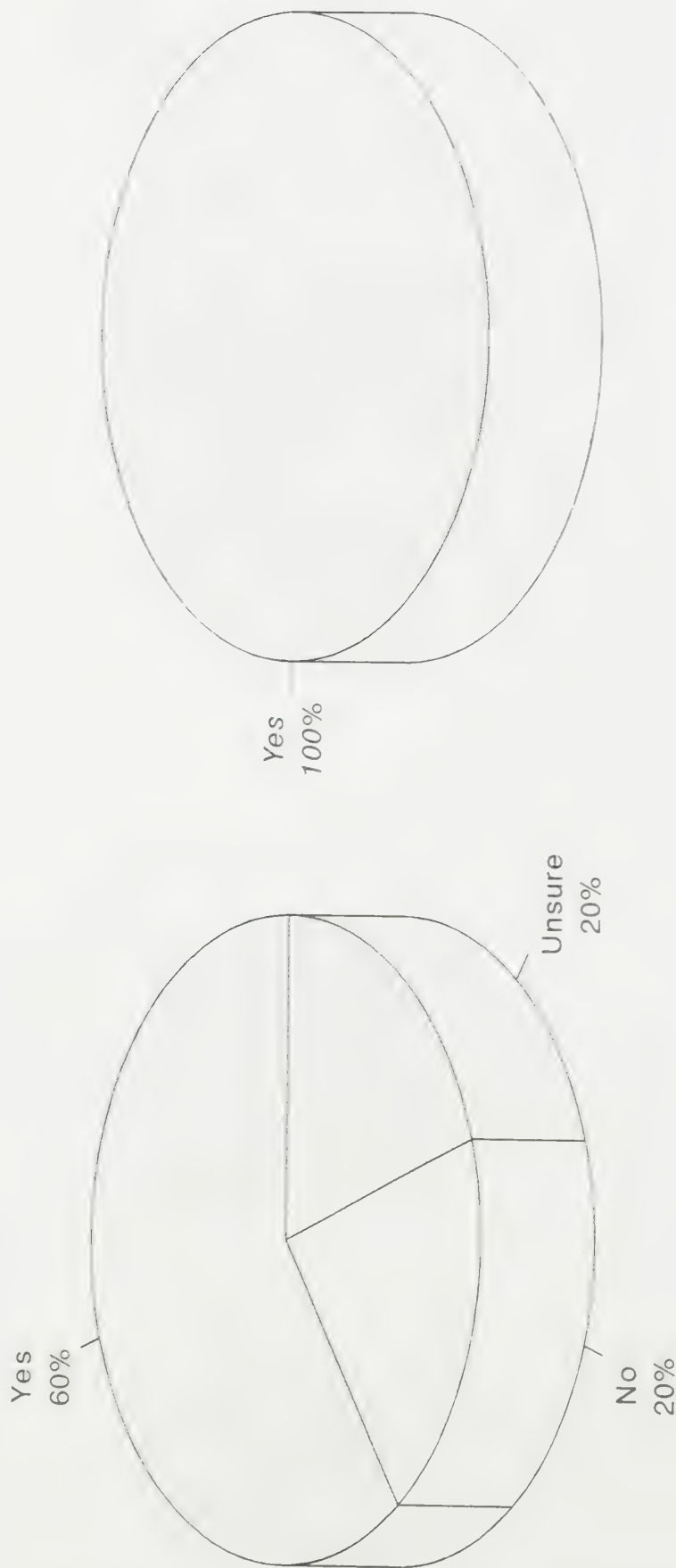


Medium Business

☐ Yes ☐ No ☐ Unsure

FIGURE ENW 11

Do You Currently Train Your Staff On Environmental Issues



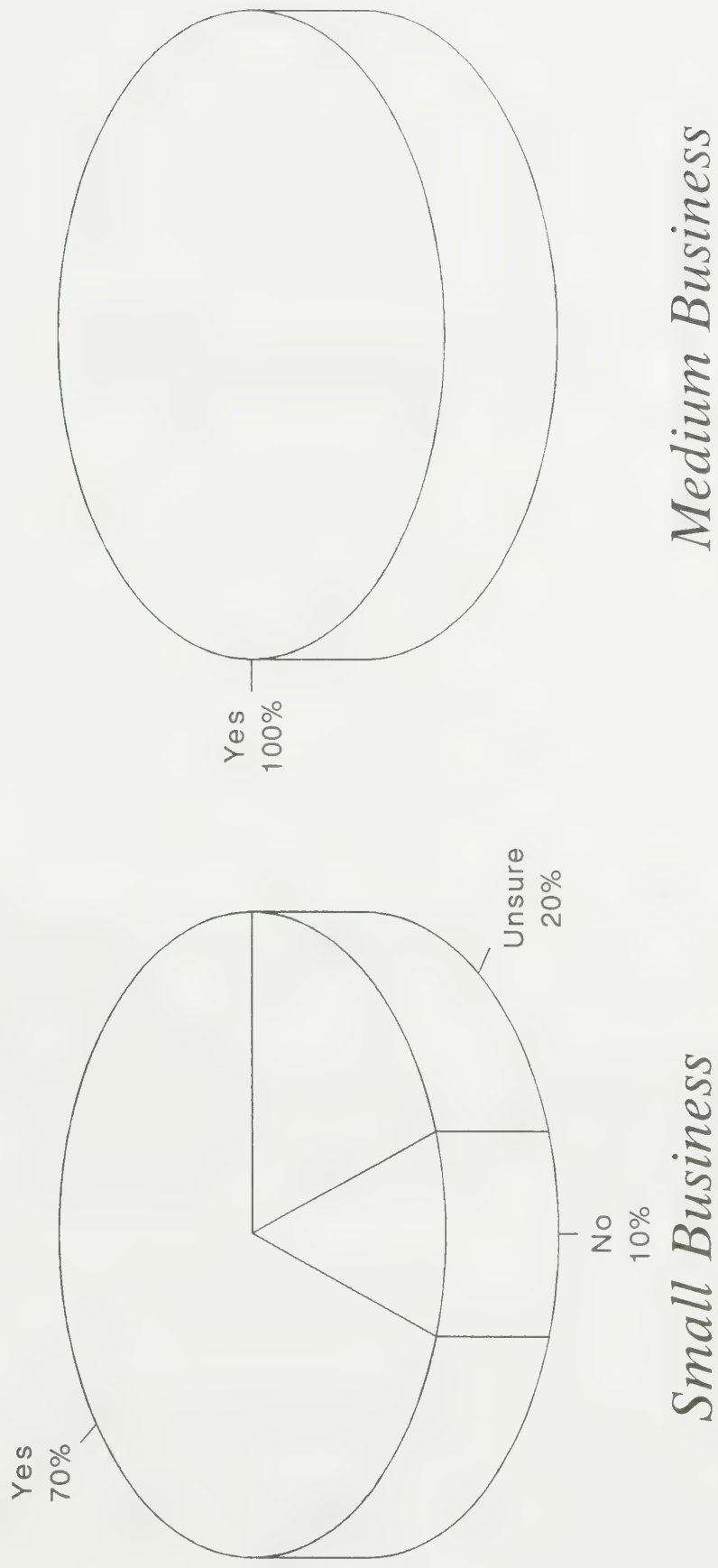
Small Business

Medium Business

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unsure
------------------------------	-----------------------------	---------------------------------

FIGURE ENV 12

Employees Who Have Attended Seminars Or Courses Related To The Environment



☐ Yes

☐ No

☐ Unsure

FIGURE ENV 13

Which Of The Following Areas Of The Environment Are of Concern In The Operation Of Your Business

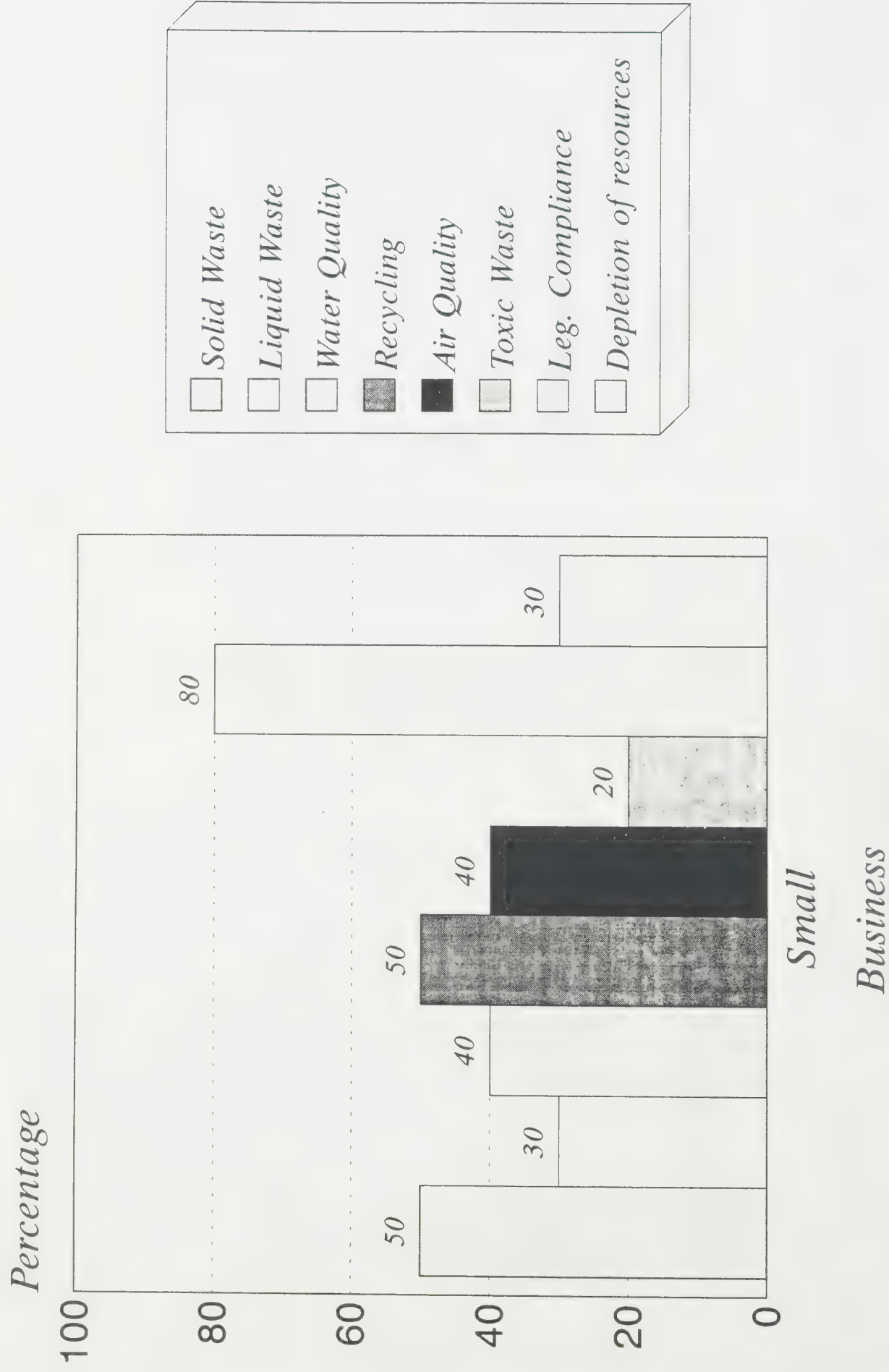
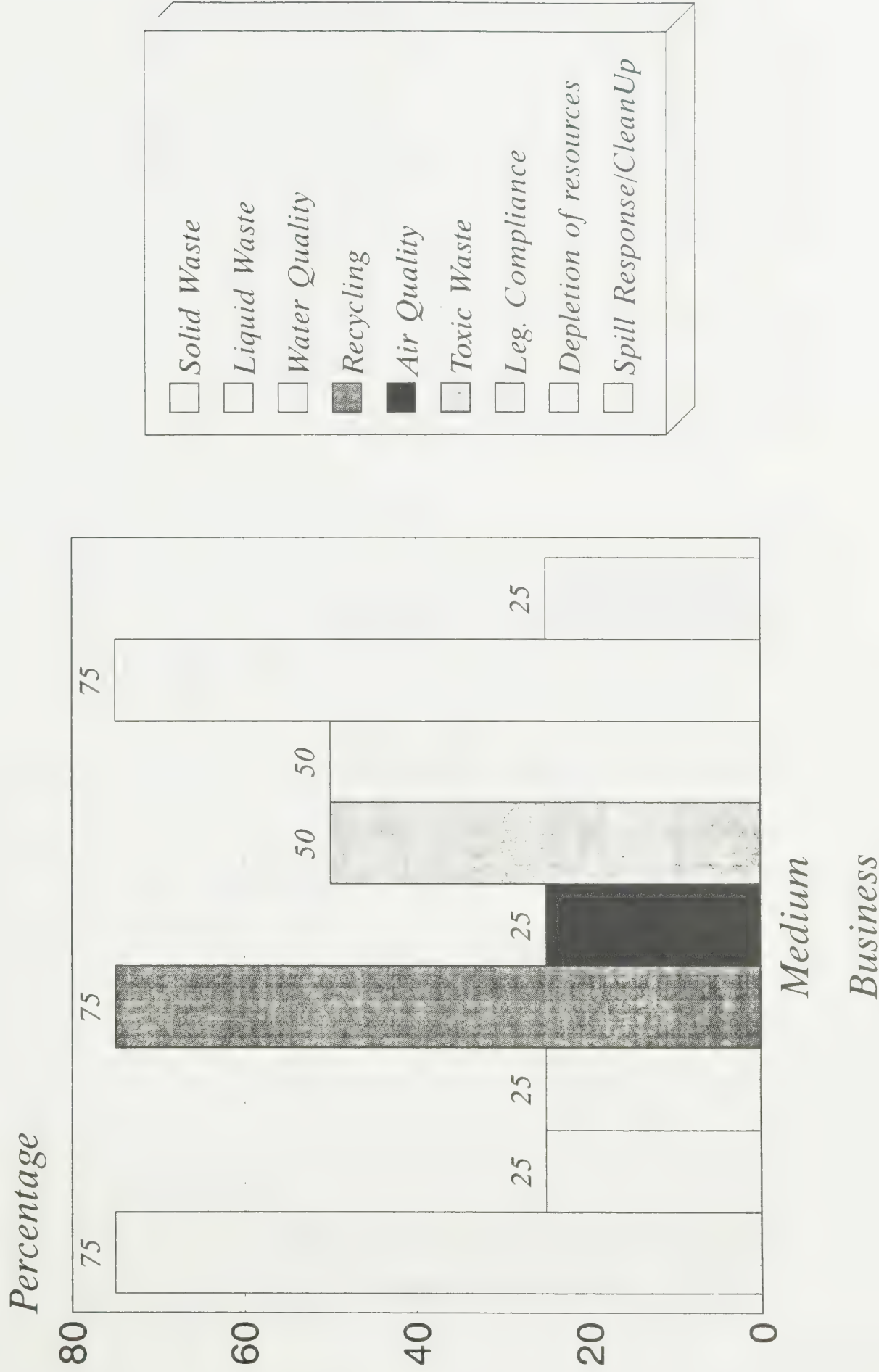


FIGURE ENV 14

Which Of The Following Areas Of The Environment Are Of Concern In The Operation Of Your Business



Reduction Re Use Recycling Material Substitution Initiatives

This question was asked to determine the involvement of business in the most common of environmental practices.

In total, 86 per cent of environmental companies have strategies for recycling and reducing, 79 per cent are involved in re-using and 72 per cent are using material substitution strategies (Figure Env 15).

Overall, these results reflect the highest level of activities in the R's and material substitution amongst all the sectors surveyed. While we have already noted the ability of the environmental sector to react proactively to change it may also be important to find out what these companies are doing to encourage these activities in-house.

Does your company require suppliers to comply with environmental practices?

This question was asked to provide further indications as to whether environmental concerns are becoming a regular part of business practice.

In total, 71 per cent of environmental companies indicate they are requiring their suppliers to comply with environmental practices (Figure Env 16), 21 per cent were unsure and only 10 per cent have no such requirement.

Results in this sector are higher than in other surveyed sectors. This industry is more aware of the long term impacts of not conducting business in a sustainable way and therefore appears to be playing a greater role in encouraging environmental business

FIGURE ENV 15

Current Or Future Business Participation In Reduction, Re-Use, Recycling & Material Substitution

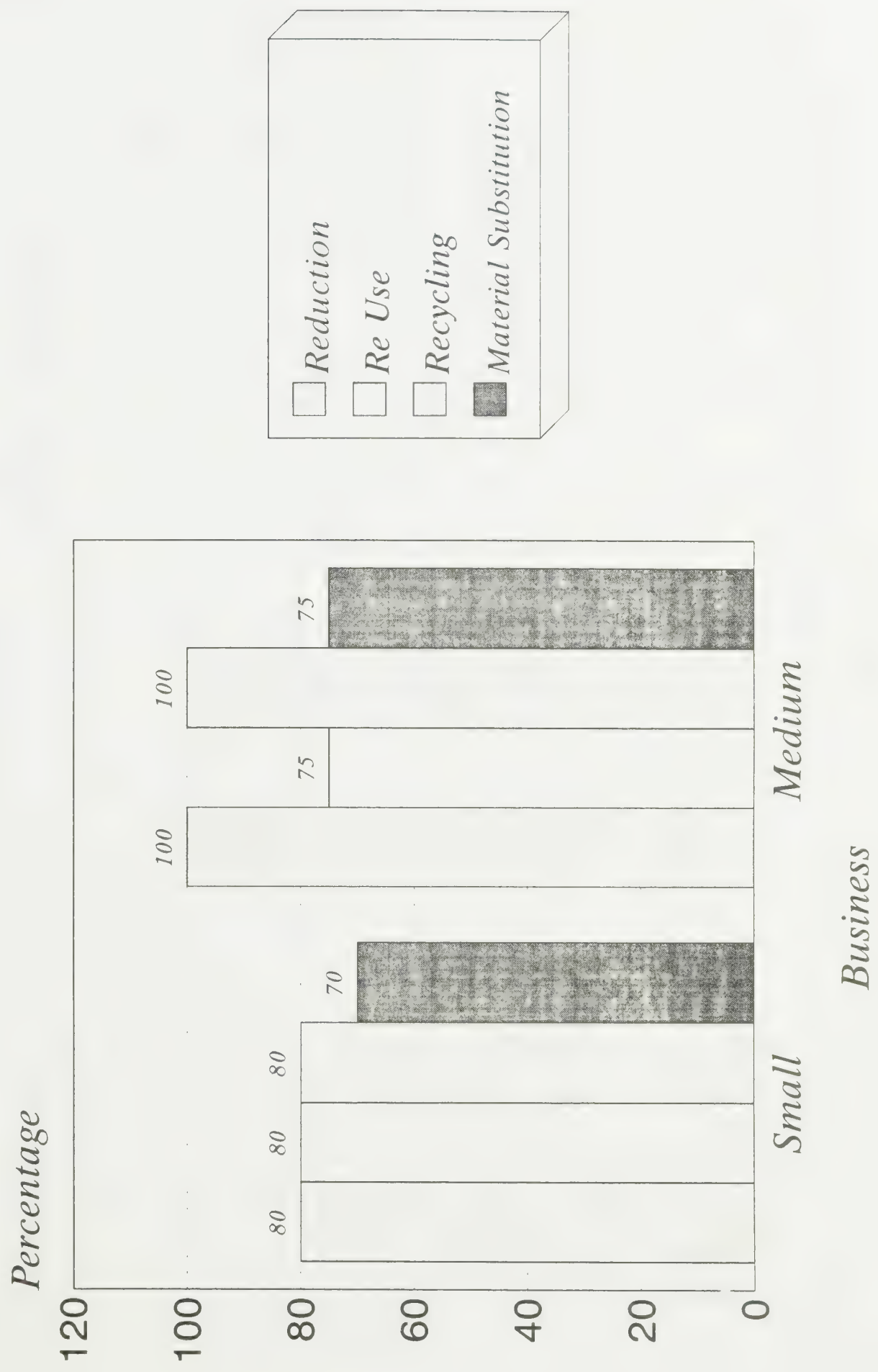
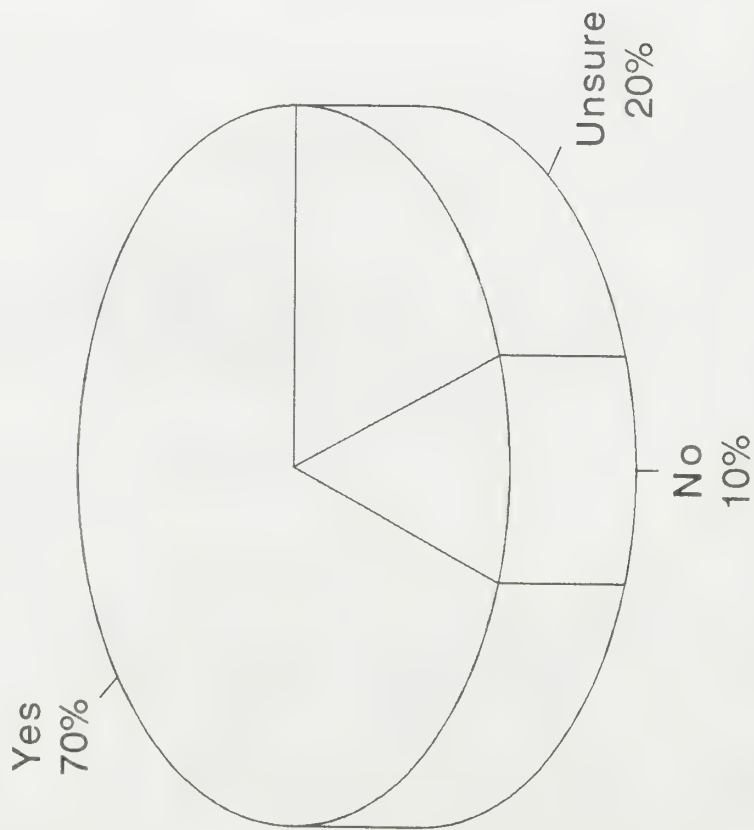
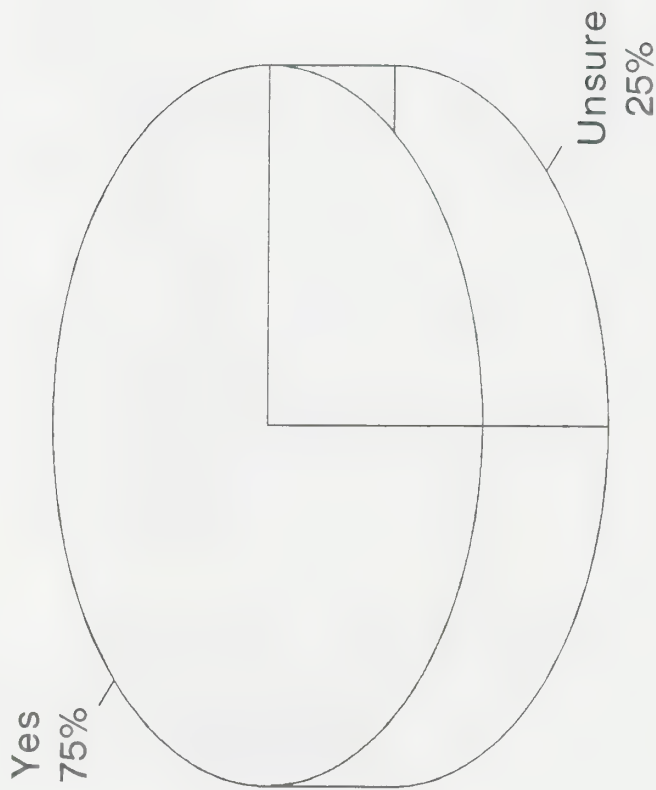


FIGURE ENV 16

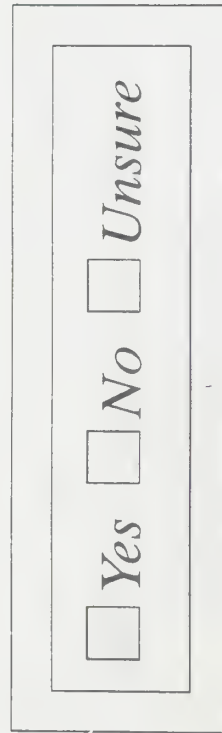
Does Your Company Require Suppliers To Comply with Environmental Practices



Small Business



Medium Business



practices. Unlike other sectors, the environmental industry also has more of a vested stake in requiring its suppliers to carry out its operations in an environmentally sound way. In some cases, assisting suppliers to do so could result in business for environmental companies.

Which of the following aspects of environmental legislation are most difficult for your business?

This question was asked to identify areas of compliance and compliance related issues with which business was experiencing the most trouble.

Small business viewed keeping abreast of new laws as its most difficult challenge in dealing with environmental legislation (Figure Env 17) while medium companies saw increased fees as presenting more of a difficulty (Figure Env 18) followed by new laws. However, in both groups there were also high degrees of difficulty listed with increased paperwork and the cost of compliance. Small companies saw inspections and taxes as less of a problem than did the medium firms.

Even in this sector, where being aware of the latest in environmental law is part of day to day operations, keeping on top of legislation is still proving difficult. The demands of government are out-stripping the ability to keep pace. This furthers the need for a more proactive approach by regulating bodies which are insisting upon change without fully considering the impact of their demands on business.

What type of environmental training do you feel would benefit your company most?

FIGURE ENV 17

Which Of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business

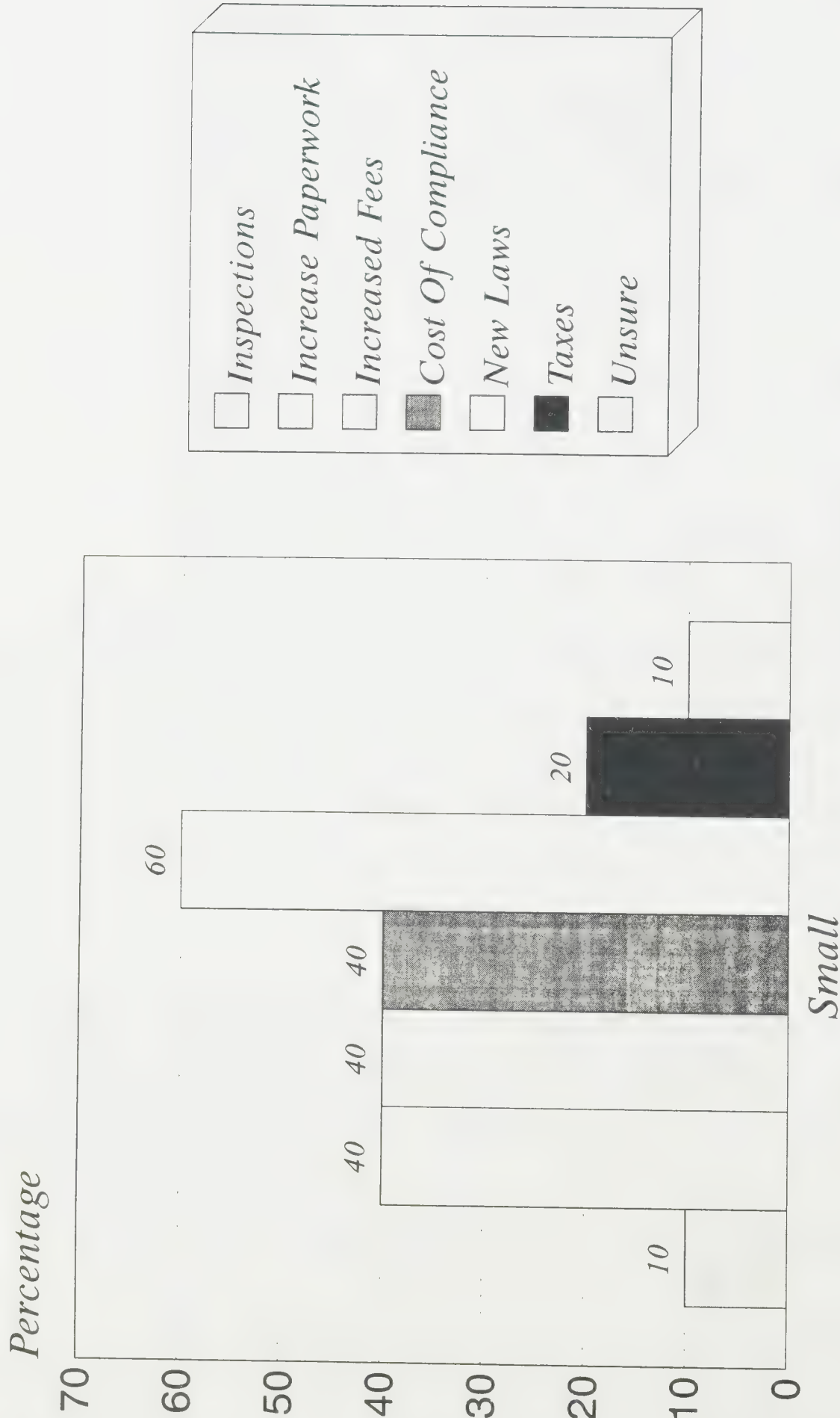
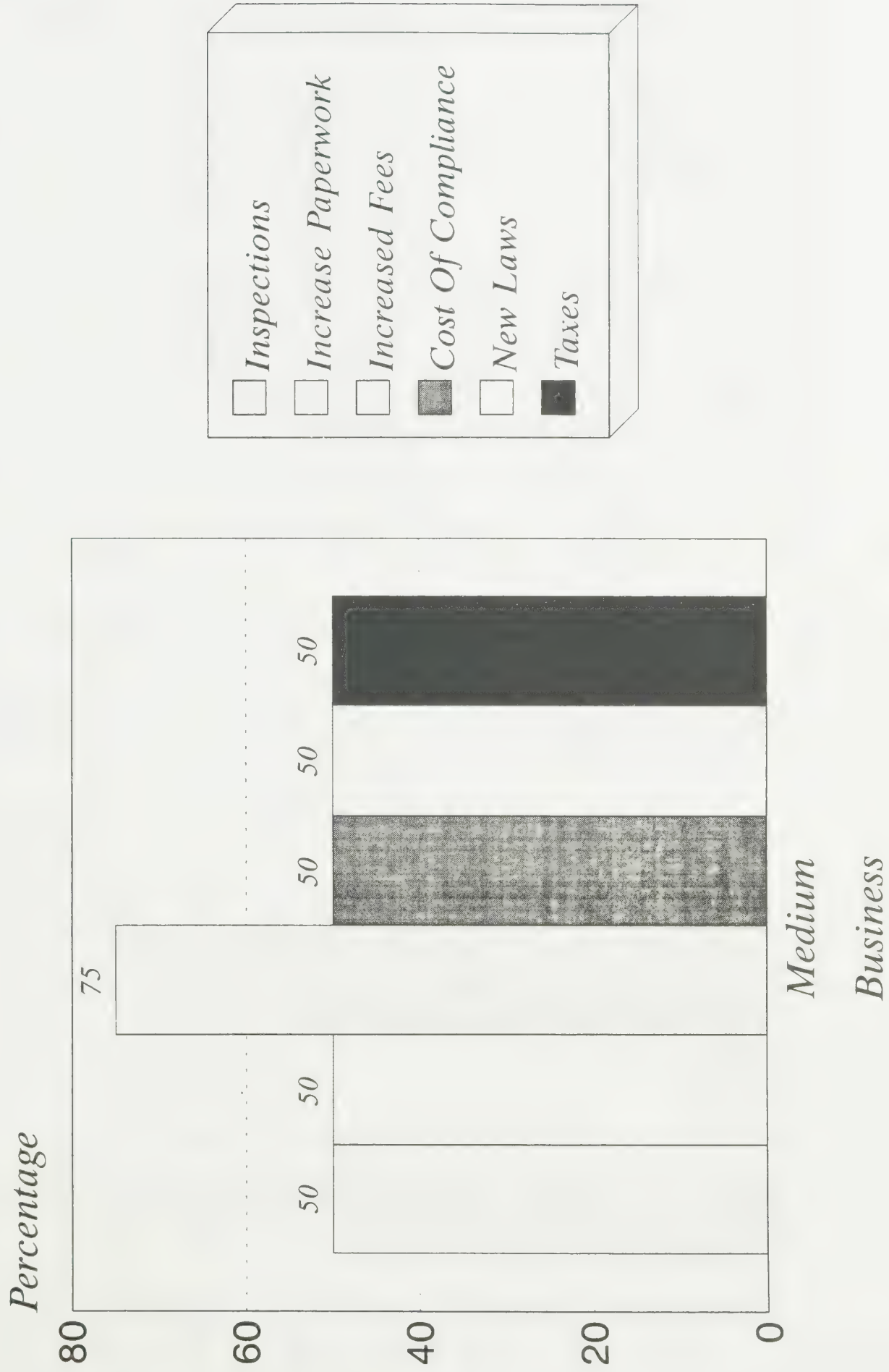


FIGURE ENV 18

Which of The Following Aspects Of Environmental Legislation Are Most Difficult For Your Business



This question was asked to determine the immediate and specific skill requirements of business in areas relating to the environment. Twelve choices were given.

There is a great demand for a number of training areas in both small (Figure Env 19) and medium (Figure Env 20) companies. In total, 71 per cent of firms indicated they required training in disposal alternatives followed by legislative compliance (64%), hazardous waste management (57%), technological innovations (57%), material substitution (43%), emissions (43%), financial planning (43%), testing procedures (36%), air quality control (29%), gas recovery (21%) and sewage treatment (7%).

What is the largest barrier to environmental training of your staff?

This question was asked to determine what was preventing business from going forward with training that it needs. Eight options were provided.

Responses from the small (Figure Env 21) and medium companies (Figure 22) were consistent in their lack of perceived barriers with a couple of exceptions. Fifty per cent of small companies indicated financial resources were a training barrier and 40 per cent said the training they need was unavailable. Medium firms felt employee resistance to training (50%) was their largest barrier.

When involved in training which type of format do you prefer?

This question was asked to determine what training times most suited business needs. Six options were presented.

FIGURE ENV 19

Environmental Training That Would Benefit A Company The Most

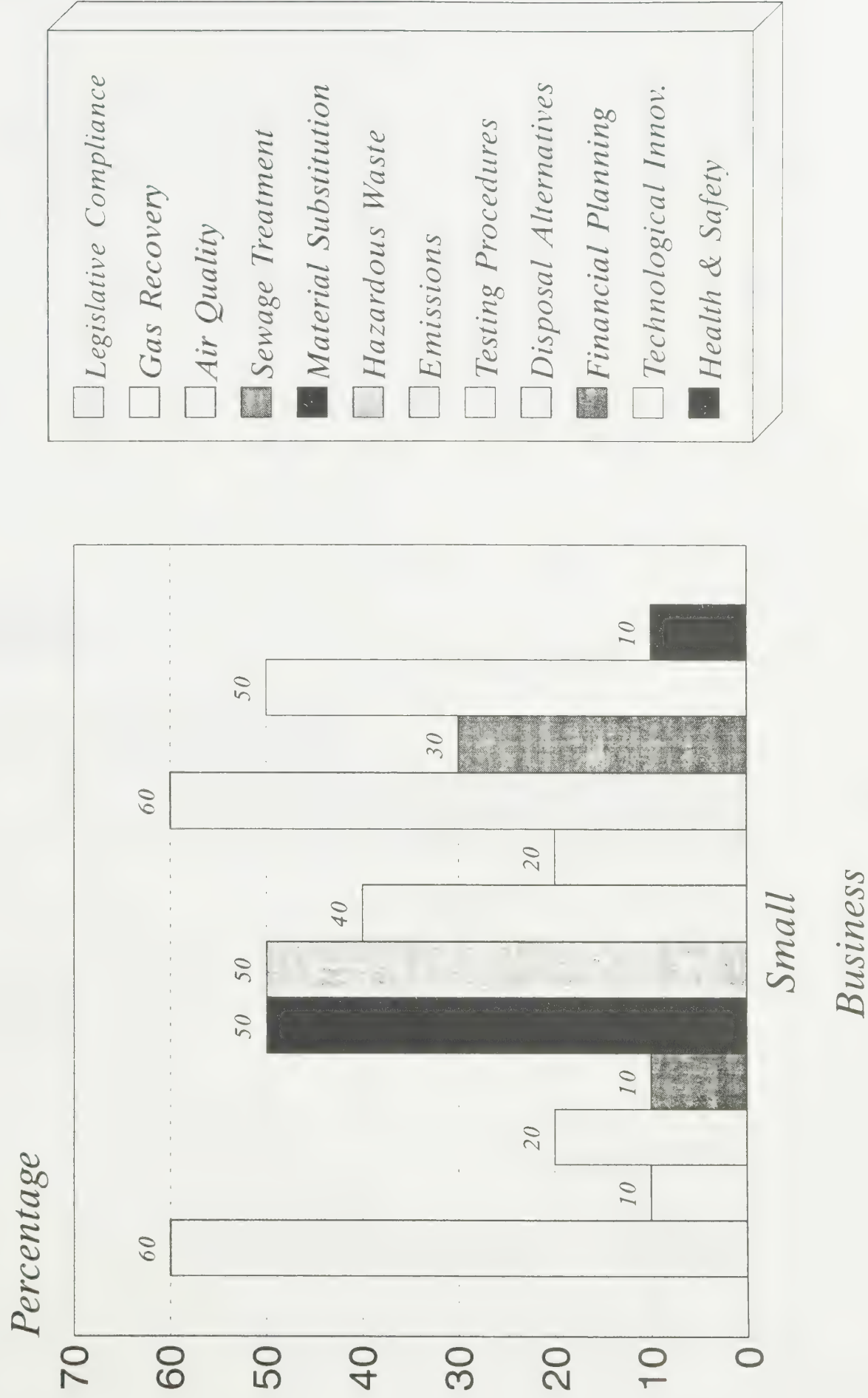


FIGURE ENV 20

Environmental Training That Would Benefit A Company The Most

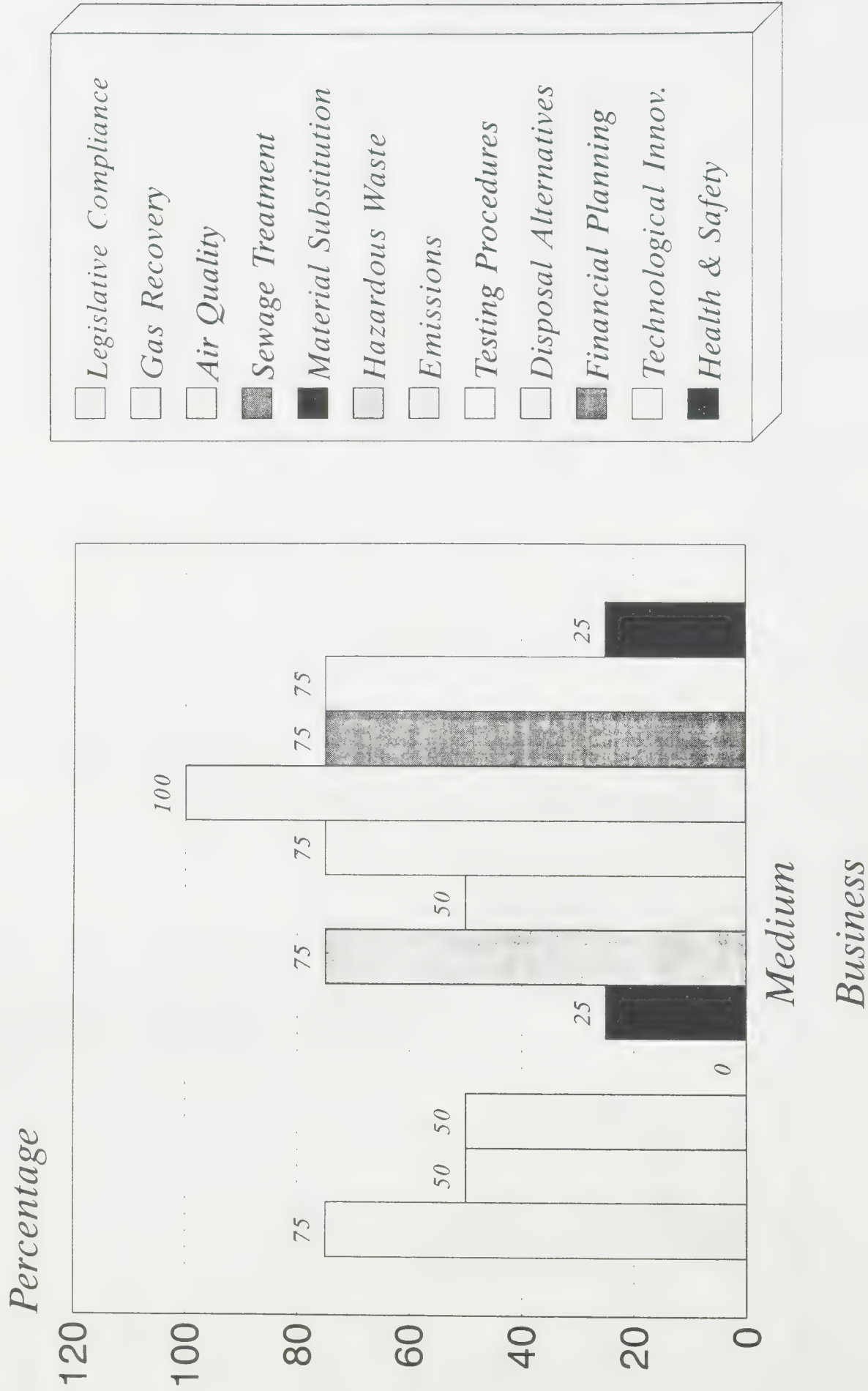


FIGURE ENV 21

Largest Barrier To Environmental Training Of The Staff

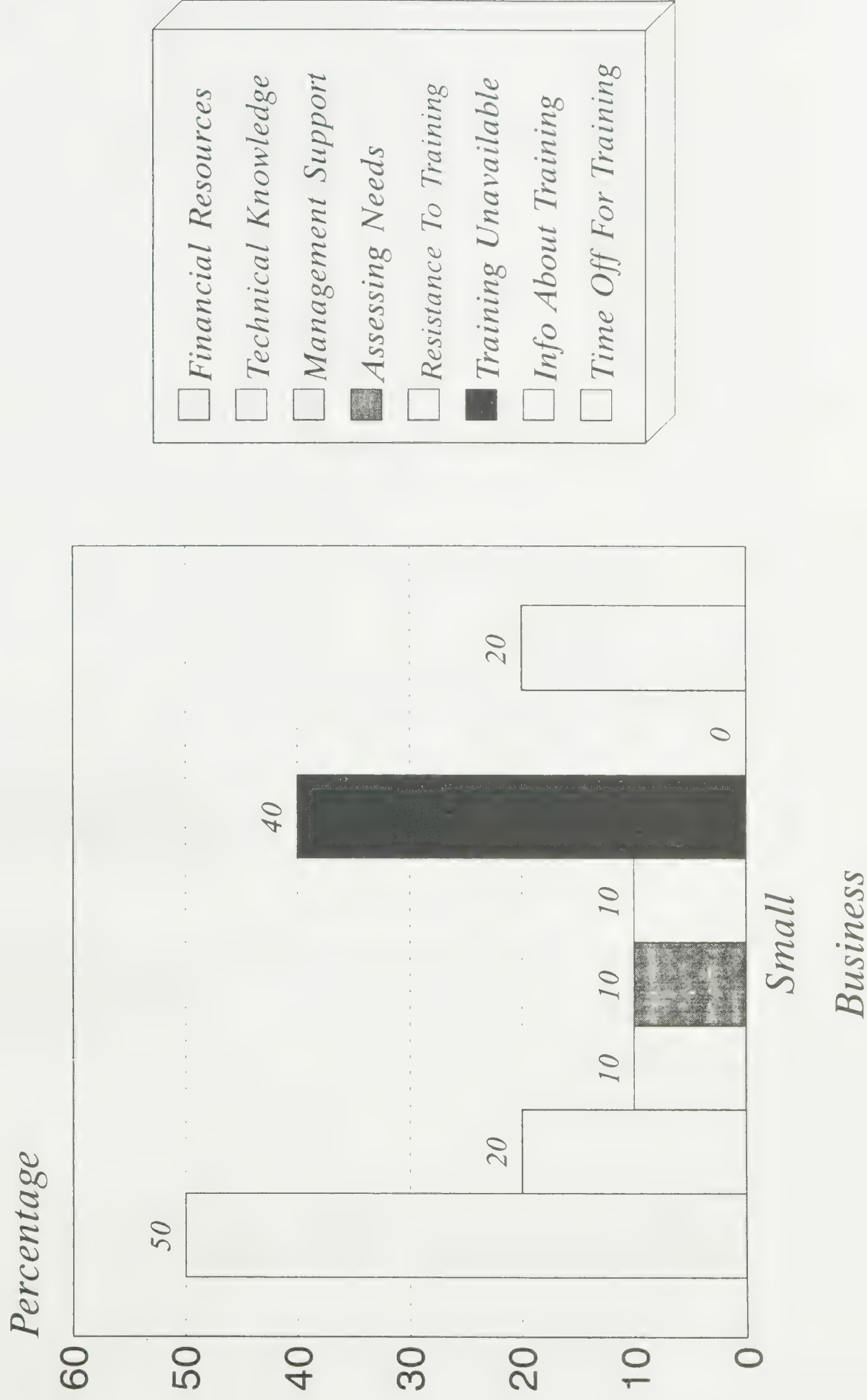
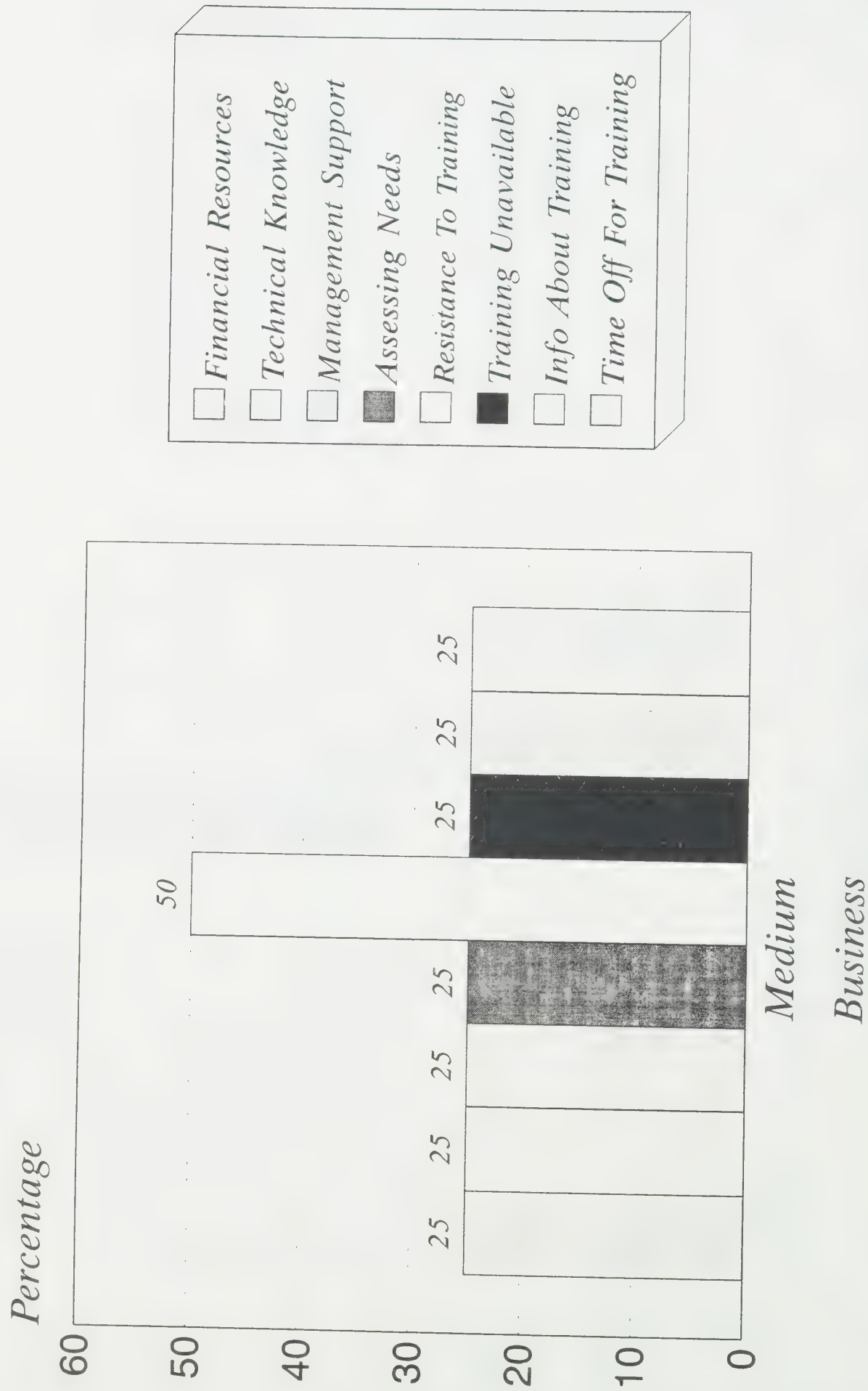


FIGURE ENV 22

Largest Barrier To Environmental Training Of The Staff



Seminar/workshop training was indicated as the most preferred format for training by both small (Figure Env 23) and medium (Figure Env 24) companies. On-site training was seen as the next option.

As in most sectors, the environmental industry prefers training that is the least intrusive into day to day operations.

Do you foresee a need to hire graduates from an environmentally related course?

This question was asked to determine which businesses were breaking out environmental responsibilities as distinct occupations.

Thirty per cent of small companies and 75 per cent of medium companies indicated they needed to hire graduates from an environmentally related course (Figure Env 25).

Did you find the information we provided helpful?

Did it influence any of your answers after it was given to you?

These questions were asked after tranSKILLS conducted and presented research into the environmental impact on the industry as determined by environmental experts. We were attempting to determine whether new ways of collecting labour market information would enhance business without adversely affecting survey results.

No information sheet was prepared for this sector.

FIGURE ENV 23

When Involved In Training Which Type Of Format Do You Prefer

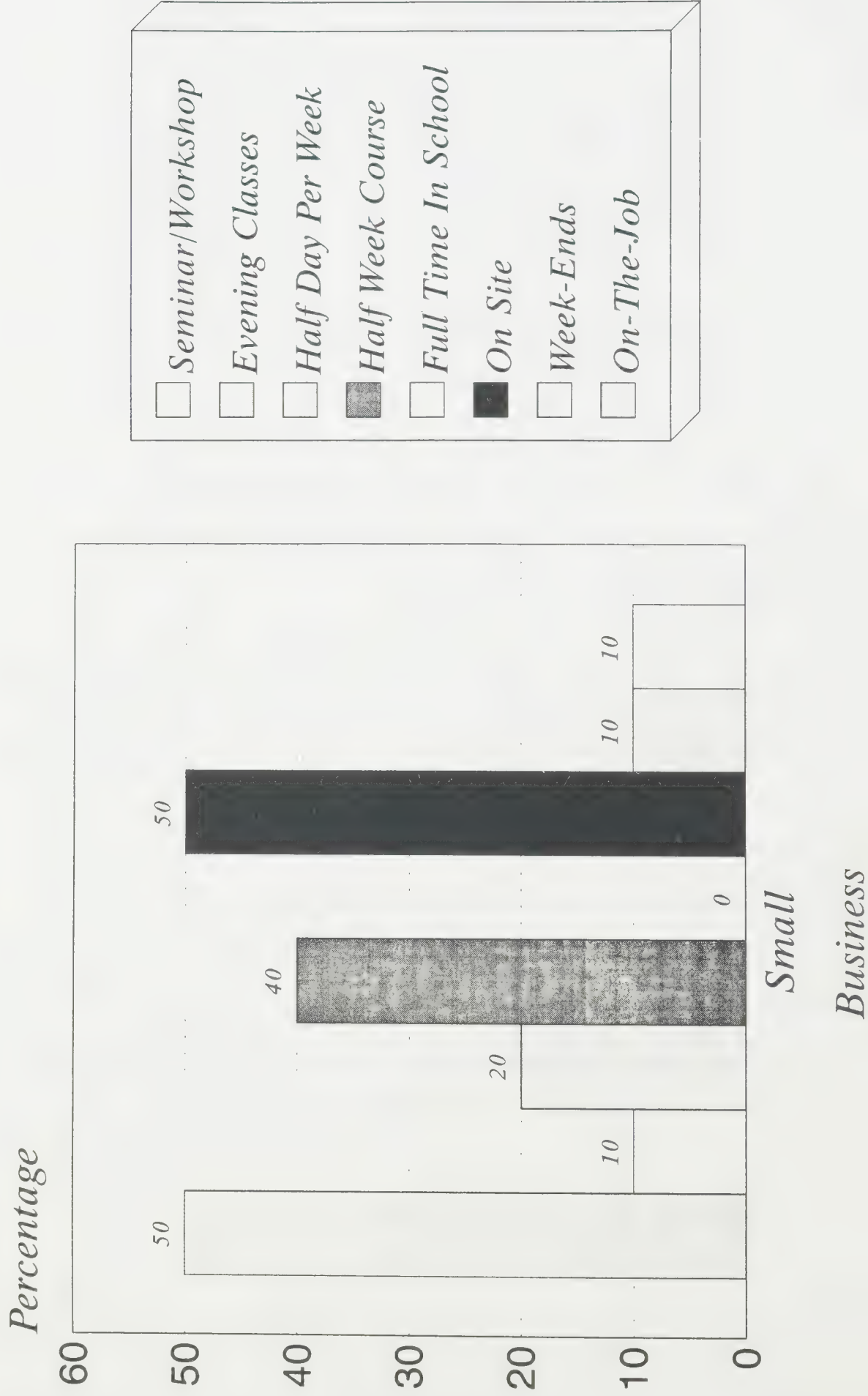


FIGURE ENV 24

When Involved In Training Which Type Of Format Do You Prefer

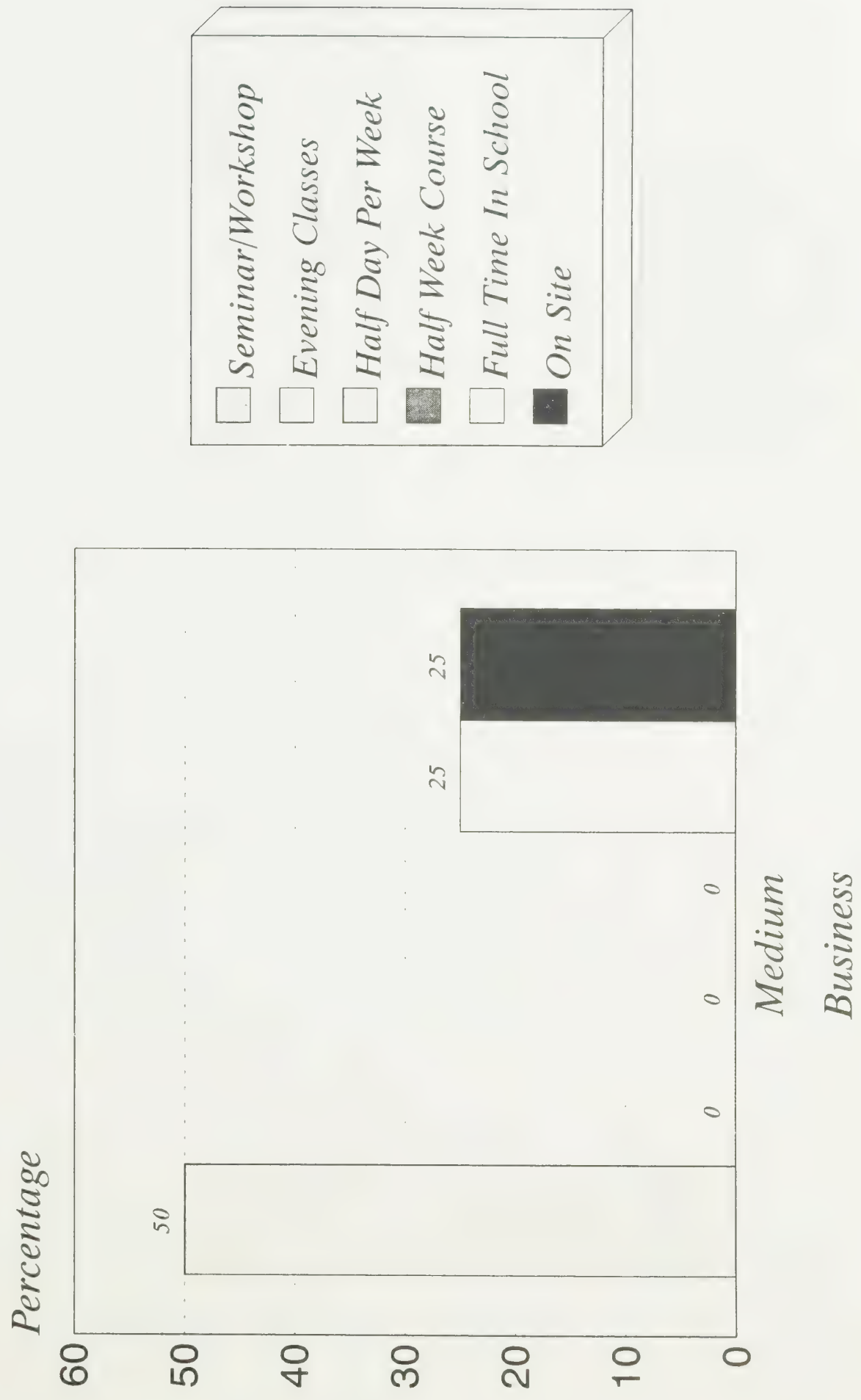
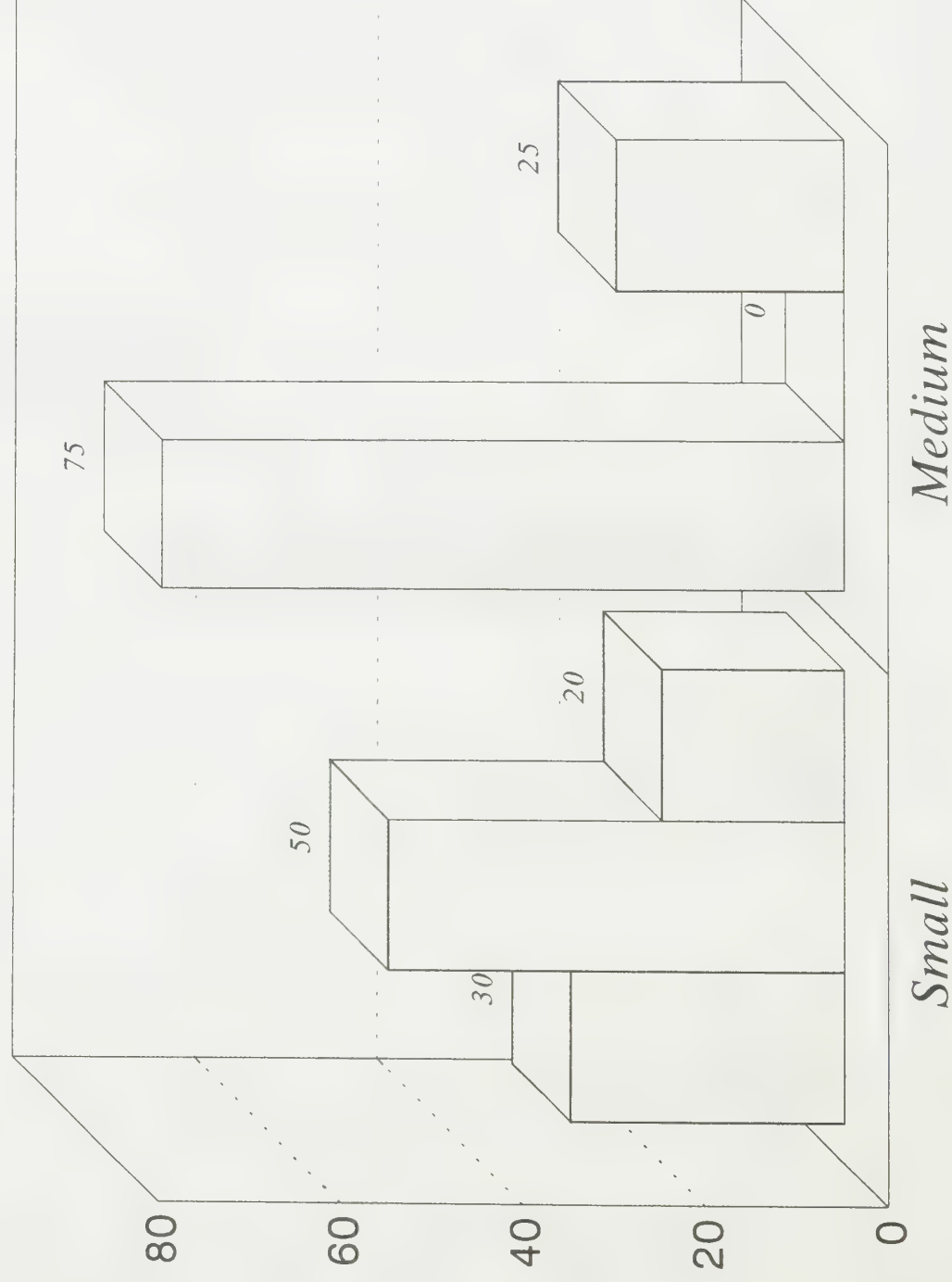


FIGURE ENV 25

Do You Foresee A Need To Hire Graduates From An Environmentally Related Course

Percentage



Yes

No

Unsure

Small

Medium

Business

APPENDICES

APPENDIX 1

SURVEY OF ENVIRONMENTAL

MANUFACTURING & SERVICE COMPANIES

TRANSKILLS

JULY/AUGUST 1992

LABOUR NEEDS SURVEY OF ENVIRONMENTAL MANUFACTURING AND SERVICE COMPANIES-

NAME OF RESPONDENT:

COMPANY NAME:

COMPANY ACTIVITY:

COMPANY ADDRESS
AND POSTAL CODE:

TELEPHONE:

FAX:

COMPANY TYPE: SERVICE / MANUFACTURING

COMPANY SIZE: SMALL (1-20 employees) _____

MEDIUM (21-99)

LARGE (+100)

COMPANY GROWTH: How many new employees have you hired in the past two years?

PART I

1) What skills are the businesses that you're serving seeking from you presently?

GENERAL AWARENESS OF ENVIRONMENTAL ISSUES

WASTE MANAGEMENT PRACTICES

CHANGING PRODUCTS AND PRODUCTION METHODS

UNDERSTANDING OF LEGISLATIVE REQUIREMENTS

OTHER

2) The Environmental industry is constantly changing through new regulations and legislation, advancing technology and the impact of public awareness. How does your company keep abreast of such changes?

-ASSOCIATION TRAINING

-ON THE JOB TRAINING

-OUTSIDE TRAINERS

-INDUSTRY SEMINARS

-INTERNALLY DEVELOPED TRAINING PROGRAMS

-PRIVATE TRAINING PROGRAMS

-PUBLICATIONS

-GOVERNMENT CONTACTS

-OTHER

3) The Environmental Bill of Rights and other legislative proposals will likely increase the demand for environmental specialists. Do you foresee a shortage of trained experts in Hamilton-Wentworth?

YES / NO

If yes, in which areas do you foresee these shortages?

Manufacturing:

WATER POLLUTION CONTROL _____

AIR POLLUTION CONTROL _____

SOLID WASTE MANAGEMENT _____

MEASURING AND MONITORING EQUIPMENT _____

SCIENTIFIC RESEARCH EQUIPMENT _____

CHEMICALS FOR POLLUTION CONTROL _____

NOISE CONTROL INSTRUMENTS _____

SAFETY EQUIPMENT _____

Services:

WASTE HANDLING AND ENVIRONMENTAL FACILITY OPERATIONS _____

CONSTRUCTION OF POLLUTION CONTROL EQUIPMENT _____

CONSULTANT SERVICES (LITIGATION EXPERTISE) _____

ENVIRONMENTAL ASSESSMENT AND CONTROL _____

LABORATORY SERVICES _____

RELATED FIELD SERVICES _____

RESEARCH AND DEVELOPMENT _____

MATERIAL HANDLING _____

NATURAL RESOURCE CONSERVATION AND PROTECTION _____

OTHERS:

4) Because of technological and regulatory advancement, there is a constant need for upgrading the skills of those already employed in the environmental industry. Do you currently provide training for staff members?

YES / NO

5) A study published by Ernst and Young in 1989 estimated that environmental industries had grown between 17 and 32 percent annually between 1983 and 1987, with growth rates expected to be sustained at a level between 15 and 18 percent. Has your company experienced any shortages of trained employees.

YES / NO

6) If yes, in which areas have these shortages been noted?

6) An interm report of Ernst and Young in June 1992 entitled Human Resources in the Environmental Industry states that

"...most managers in the environmental industry have a technical background in science or engineering. Few have formal training in business management. As a result there is a lack of skills within the industry in many aspects of business management." Do you feel that members of your company might benefit from training in:

HUMAN RESOURCE MANAGEMENT _____

STRATEGIC PLANNING _____

MARKETING SKILLS _____

INTERPERSONAL (COMMUNICATION) SKILLS _____

PROBLEM SOLVING _____

DECISION MAKING _____

TEAM BUILDING _____

BASIC SKILL NEEDS _____

~~OTHER:~~

7a) Do you feel there is a need to increase the awareness among students of career opportunities in the environmental industry?

YES / NO

10) Where do you see the role and future trends of the environment industry heading?

11) What skills do you think will be required to meet these trends?

PART II

1) What is the largest motivator of a company in seeking your product or services?

LEGISLATIVE COMPLIANCE

CONCERN FOR THE ENVIRONMENT

EASIER FOR THEM TO SEEK EXPERTISE
THAN TO TRAIN THEIR OWN EMPLOYEES

AN ATTEMPT TO IMPROVE COST EFFICIENCY

CONCERN FOR PUBLIC PERCEPTION

OTHER

2) Do you feel that industry in general is capable of dealing with the changes that will be coming into effect?

YES / NO

3) What skills does industry need to acquire to become better prepared?

SECTOR-SPECIFIC ENVIRONMENTAL TRAINING

AWARENESS OF TECHNOLOGICAL ADVANCEMENTS

WASTE REDUCTION MANAGEMENT

IMPLEMENTATION OF RE-USING/RECYCLING PRACTICES

UNDERSTANDING OF SUSTAINABLE DEVELOPMENT PRINCIPLES

ENVIRONMENTAL COST-EFFICIENCY TECHNIQUES

FAMILIARIZATION WITH LEGISLATIVE REQUIREMENTS

OTHER

4) Which industrial sectors do you believe will benefit most from environmental training? 3) What skills will be required in these sectors?

CONSTRUCTION :issues

ENVIRONMENTAL AUDITS AND ASSESSMENTS

SHORTAGE OF LANDFILL SPACE

BANS OF WASTE PRODUCTS AT LANDFILLS

SOURCE SEPARATION OF MATERIALS

HAULAGE AND TIPPING FEES

WASTE MANAGEMENT PLANS

DESIGN PRACTICES

MARKETS FOR RECYCLABLE MATERIALS

BUILDING MATERIALS

PACKAGING

DANGEROUS SUBSTANCES

HAZARDOUS MATERIALS TRAINING

SAFETY REGULATIONS

TRAINING IN NEW PRODUCTS AND TECHNOLOGIES

AUTOMOTIVE INDUSTRY : issues

EMISSIONS CONTROL

POLLUTION CONTROL REGULATIONS

WASTE MANAGEMENT PRACTICES

WORKER SAFETY HABITS

RECYCLING TECHNIQUES (LIQUID)

RECYCLING TECHNIQUES (PARTS)

ALTERNATIVE FUELS

HEALTH CARE SERVICES : issues

PATHOLOGICAL WASTE DISPOSAL

PHARMACEUTICAL WASTE

MEDICAL SUPPLY WASTE

INCINERATION TECHNIQUES

RECYCLING PRACTICES

NEW TECHNOLOGIES

SECTOR-SPECIFIC HEALTH AND SAFETY TRAINING

AGRICULTURE INDUSTRY : issues

PESTICIDE USE/SAFETY

LAND PROTECTION/SOIL EROSION

CROP ROTATION/FALL COVER CROPS

SUSTAINABLE DEVELOPMENT TECHNIQUES

IMPROVED MANURE STORAGE & SPREADING PRACTICES

ORGANIC OR BIO-DYNAMIC FARMING INNOVATIONS

WATER QUALITY/ CHEMICAL RUNOFF

HEATING/REFRIGERATION/AIR CONDITIONING INDUSTRY : issues

FREON EMISSIONS

OZONE REGULATIONS

FREON RECYCLING

CFC RECLAIMING

NEW REFRIGERATION TECHNOLOGIES

DISPOSAL/HOLDING TECHNIQUES (PIGS)

INSTALLATION TECHNIQUES AND EQUIPMENT

MORE EFFICIENT PRODUCTS

AIR QUALITY MONITORING EQUIPMENT

ELECTRONICS INDUSTRY : issues

UNDERSTANDING NEW ELECTRONIC SYSTEMS

MONITORING DIAGNOSTIC EQUIPMENT

EMISSION CONTROL EQUIPMENT

SERVICING AND TESTING ELECTRONIC EQUIPMENT

NEW APPLICATIONS OF EQUIPMENT

ALTERNATIVE ENERGY SUPPLIES

FINANCE : issues

ENVIRONMENTAL CREDIT-RISK ASSESSMENT

INSURANCE LIABILITY PROTECTION

PROPERTY & EQUIPMENT AUDITS

BROADER INTERPRETATION FOR ACCOUNTING

"THINK GREEN" MARKETING PRINCIPLES

EMERGING INVESTMENTS AND MARKETS

APPENDIX 2
INFORMATION FACT SHEETS

tranSKILLS
Environmental Impact Research
for the
Automotive Repair Industry

The facts that follow have been gathered through interviews with experts in the environmental field. These experts were asked specifically to identify, and in some cases forecast, the impact that environmental trends and requirements have on your industry. We have gathered this information with the hope that it will help you meet these challenges. Your participation in the survey that follows will also help us to develop more specific training in these areas.

- carbon dioxide emissions are increasing by 0.5% a year, leading government to put strict regulations on current and future emissions from automobiles
- employers are now required by law to familiarize themselves with government restrictions regarding waste management (especially Regulation 309)
- environmentally conscious consumers are demanding "cleaner" products and services and so affecting marketing techniques
- hazardous waste management in the automotive sector is now required under new government legislation
- included on the list of hazardous materials generated at automotive shops is antifreeze, batteries and battery acid, oils, paints and solvents, refrigerants and even used rags and absorbents
- the hauling of waste generated at automotive shops leaves the producer of those wastes, as well as the hauler, liable
- the recycling of liquids, such as Freon, is becoming more common
- regulations to limit the use of non-recyclable and non-reusable packaging are coming into effect

tranSKILLS
Environmental Impact Research
for the
Health Care Industry

The facts that follow have been gathered through interviews with experts in the environmental field. These experts were asked specifically to identify, and in some cases forecast, the impact that environmental trends and requirements have on your industry. We have gathered this information with the hope that it will help you meet these challenges. Your participation in the survey that follows will also help us to develop more specific training in these areas.

- Ontario health care facilities generate 150,000 tons of waste every year
- 15,000 tons of this waste is considered hazardous pathological waste that requires special disposal
- cost of medical waste disposal averages \$1,000.00 a tonne as compared to \$150.00 dollars a tonne for solid waste disposal
- one hundred Ontario incinerators will be phased out that lack modern air pollution controls - new biomedical waste disposal centres will be created
- transportation of medical waste out of province, due to high costs and a shortage of disposal sites in Ontario, impacts greatly on the cost efficiency of the medical services industry
- municipal regulations are becoming more stringent regarding the non-pathological waste disposal from health care operators
- safety regulations for workers within the health care industry have become much more pronounced and the workers themselves are becoming more aware of their environment
- source separation of materials and supplies at medical service facilities is now required
- there are high costs for smaller practitioners to enlist the help of private disposal companies

tranSKILLS
Environmental Impact Research
for the
Construction Industry

The facts that follow have been gathered through interviews with experts in the environmental field. These experts were asked specifically to identify, and in some cases forecast, the impact that environmental trends and requirements have on your industry. We have gathered this information with the hope that it will help you meet these challenges. Your participation in the survey that follows will also help us to develop more specific training in these areas.

- the cost of disposing of waste can be as much as 4% the cost of the house
- it is estimated that the total volume of waste generated by the construction of new homes is 5% at the landfill site
- non-residential construction and demolition represents an additional 9%
- land audits are being performed on a regular basis
- banned products on landfill sites are becoming increasingly more predominant
- tipping fees have increase 730%
- design practices are changing
- building codes are being modified
- increasing awareness of environmental issues has increased the level of basic operating costs
- the government is requiring a waste audit to be performed before the construction or demolition of a site
- source separation of materials impacts on cost efficiency
- building companies remain responsible for their waste even after it is removed from the site
- unforeseen costs such as soil contamination must be incorporated into specifications and contract writing
- energy efficiency must be merged into every aspect of building
- workers are becoming increasingly aware of their environment creating an additional outlay in safety equipment

tranSKILLS
Environmental Impact Research
for the
Finance Industry

The facts that follow have been gathered through interviews with experts in the environmental field. These experts were asked specifically to identify, and in some cases forecast, the impact that environmental trends and requirements have on your industry. We have gathered this information with the hope that it will help you meet these challenges. Your participation in the survey that follows will also help us to develop more specific training in these areas.

- Canada's wealth is built upon its natural resources
- growing public concern is forcing the world to seek ways to include environmental factors in it's economic decisions
- we have previously survived economic growth at any cost - we are now at the stage where we cannot afford to unthinkingly sacrifice natural resources for economic development
- government and corporations are increasingly introducing sustainable development concepts into their strategic plans and day to day operations
- new economic models are affecting the decision making process
- financial institutions will need to expand their basic knowledge of environmental theory, policy, legislation, audit techniques, and the models and methods of sustainable development
- a bank demands a 50 year audit of client sites to determine whether there are any hidden environmental hazards lying dormant
- land audits add significantly to the cost of borrowing
- lenders could be held liable for any cleanup costs when they foreclose on a client
- all business operations are touched by the environment - management planning procedures, organization and training all have to be considered to achieve green status

tranSKILLS
Environmental Impact Research
for the
Heating/Refrigeration/Air-Conditioning Industry

The facts that follow have been gathered through interviews with experts in the environmental field. These experts were asked specifically to identify, and in some cases forecast, the impact that environmental trends and requirements have on your industry. We have gathered this information with the hope that it will help you meet these challenges. Your participation in the survey that follows will also help us to develop more specific training in these areas.

- the Canadian government has made policy to eventually eliminate the use of ozone depleting chlorofluorocarbons (CFC's), requiring the industry to find alternate methods of refrigeration
- the industry currently uses 60% of all controlled CFC's in Canada
- new requirements will emphasize the recovery, recycling and eventual elimination of refrigerants such as CFC(r-11) and CFC(r-12)
- the elimination of non-essential processes which release CFC's into the atmosphere are currently being examined
- the prevention of accidental CFC leaks, through testing, substitution and the proper transfer between containers will further increase the demand for specialists in the industry
- proper CFC storage techniques and the use of PIG containers presents a challenge to the industry and in particular small and medium sized operators
- many industry associations are requiring records to be kept detailing transfer of CFC's between containers and refrigeration systems
- the conversion of systems once CFC alternatives are found is expected to be a requirement in the future
- more efficient products for energy conservation are also anticipated to be a major requirement in future years

transSKILLS
ENVIRONMENTAL IMPACT RESEARCH
FOR THE
OFFICE

The facts that follow have been gathered through interviews with experts in the environmental field. These experts were asked to specifically identify, and in some cases forecast the impact environmental trends and requirements have on the workplace. We have gathered this information with the hope that it will help you meet these challenges. Your participation in this survey will also help us to develop more specific training in these areas.

Air Quality is causing great concern. Issues pertaining to smoking in the workplace, sick building syndrome and air exchange circulation problems are becoming more common place.

Carbon black found in photocopiers, typewriters, printers (in particular laser printers) is a designated dangerous substance.

Companies are returning their printer drums and purchasing reused drums at a substantial price reduction in comparison to the price of a new drum.

Liquid paper is a controlled substance.

Offices in general do not have a health and safety representative.

Office workers are becoming more conscious of their surroundings. Radiation from exposure to computer screens, especially during pregnancy, is one example of this awareness.

Many offices in the area are using bottled water because of plumbing problems in the building.

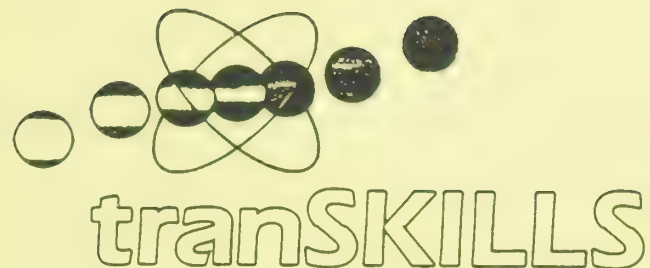
Issues surrounding reduction, reuse and recycling of wastes can be seen as time consuming and costly.

ENVIRONMENTAL HOTLINES
FOR
HAMILTON-WENTWORTH

Recycling	546-2157
Solid Waste	546-4417
Industrial Waste Sewer Use Control	546-4423
Spills Action Line	545-1300
Garbage Collection Information	
• Hamilton	546-2785
• Stoney Creek	643-1261
• Ancaster	648-4401
• Dundas	628-6327
• Flamborough	689-7351
• Glanbrook	679-4121
Pollution Prevention General Information (Cave & Associates)	577-4636

APPENDIX 3

SURVEY QUESTIONNAIRE



Labour Market Needs Assessment - Survey Questionnaire

Surveyor _____

Appointment Day & Time _____

1. Company Name _____

2. Address _____

3. City _____

4. Postal Code _____

5. Telephone Number _____

6. Head Office or Branch _____

7 Contact Person _____

8. Contact Position _____

9. Contact Telephone Number _____

10. Number of Full Time Employees (FTIME) _____

11. Number of Part Time Employees (PTIME) _____

12. Number of Temporary Employees (TEMP) _____

Hamilton Wentworth Skills Training Advisory Committee

201 James St. South, Hamilton, Ontario L8P 3A9 Tel: 528-0545 Fax: 528-8887

[illegible]

[illegible]

- *To improve or enhance the employee*
- *To further specialize in their present occupation*
- *To meet changing skill requirements*
- *To assist tranSKILLS in training program planning.*

<p>21. What are the skills your staff needs to upgrade on in order to meet the current and future requirements of your industry?</p>	<p>22. Do you anticipate any new hires over the next 12 months due to growth of your organization?</p>	<p>23. Do you plan any new hires over the next 12 months as a result of staff replacement?</p>	<p>24. What would be your entry level wage per hour?</p>
		<p><i>*To replace positions due to turnover, retirements, promotions, etc.</i></p>	<p><i>*Wage data is useful for career planning, career counselling and placement analysis.</i></p>

25. In the next year will your business be introducing changes in any of the following areas:

a) Do you intend on introducing any new equipment? Yes_____ No_____

b) If "Yes" what kind(s) of equipment?

c) What impact will this equipment have on the skill requirements of the occupations affected?

d) Do you intend to introduce any new processing methods? Yes_____ No_____

e) If "Yes" can you describe the impact on the skill requirements of those affected?

f) Do you anticipate any other changes in operations? Please describe.

26. To what extent do you expect technology, or changes related to advances in technology, to impact on your business in the next 2 to 3 years?

_____ No Impact
_____ Minimal Impact
_____ Moderate
_____ Substantial
_____ Very Substantial

27. Is your business currently regulated by an environmental government department?

_____ Yes
_____ No
_____ Unknown

28. Does your company have someone on staff who is in charge of environmental issues?

_____ Yes
_____ No
_____ Unsure

29. Which of the following areas of the environment are of concern in the operation of your company?

_____ Solid Waste	_____ Air Quality Control
_____ Liquid Waste	_____ Toxic Waste
_____ Water Quality	_____ Legislative Compliance
_____ Recycling	_____ Depletion of Natural Resources

30. Do any of your staff require environmental certification to perform their jobs at present?

_____ Yes
_____ No
_____ Unsure

31. Are any of your staff able to identify critical functions related to the environment?

_____ Yes
_____ No
_____ Unsure

32. Does your business participate now or have future plans for:

_____ Reduction
_____ Re Use
_____ Recycling
_____ Material Substitution Initiatives

33. Does your company require suppliers to comply with environmental practices?
- ☐ Yes
☐ No
☐ Unsure
34. Which of the following aspects of environmental legislation are most difficult for your business?
- | | |
|--|---|
| <input type="checkbox"/> Inspections | <input type="checkbox"/> Cost of Compliance |
| <input type="checkbox"/> Increased Paperwork | <input type="checkbox"/> Keeping Abreast of New Laws |
| <input type="checkbox"/> Increased Fees
(for use of sewers, landfills etc.) | <input type="checkbox"/> Taxes
(re: unsafe environmental products) |
| <input type="checkbox"/> Do Not Know | |
35. Do you currently train your staff on environmental issues?
- ☐ Yes
☐ No
☐ Unsure
36. Have any of your employees attended seminars or courses related to the environment?
- ☐ Yes
☐ No
☐ Unsure
37. What type of environmental training do you feel would benefit your company most?
- | | |
|---|---|
| <input type="checkbox"/> Legislative Compliance | <input type="checkbox"/> Hazardous Waste Management |
| <input type="checkbox"/> Gas Recovery | <input type="checkbox"/> Emissions |
| <input type="checkbox"/> Air Quality Control | <input type="checkbox"/> Testing Procedures |
| <input type="checkbox"/> Sewage Treatment | <input type="checkbox"/> Disposal Alternatives |
| <input type="checkbox"/> Material Substitution | <input type="checkbox"/> Financial Planning
(Insurance, Liability) |
| <input type="checkbox"/> Technological Innovations in Operation | |
| <input type="checkbox"/> Other (specify) | |
38. When involved in training which type of format do you prefer?
- | | |
|---|--|
| <input type="checkbox"/> Seminar /Workshops | <input type="checkbox"/> Intensive 1/2 Week Course |
| <input type="checkbox"/> Evening Classes | <input type="checkbox"/> Full Time in School |
| <input type="checkbox"/> Half Day Per Week | <input type="checkbox"/> On Site |

39. What is the largest barrier to environmental training of your staff?
- | | |
|---|---|
| <input type="checkbox"/> Lack of Financial Resources | <input type="checkbox"/> Difficulty in Assessing Need |
| <input type="checkbox"/> Lack of Technical Knowledge | <input type="checkbox"/> Employee Resistance to Training |
| <input type="checkbox"/> Lack of Management Support | <input type="checkbox"/> Training Required is Unavailable |
| <input type="checkbox"/> Lack of Information About Training Programs | |
| <input type="checkbox"/> Unable to Give Personnel Time Off for Training | |
40. Do you foresee a need to hire graduates from an environmentally related course such as Environmental Technician or Waste Management?
- ☐ Yes
☐ No
☐ Unsure
☐ If Yes
☐ When?
41. Did you find the information sheet we provided you helpful in any way? *(To be asked only to those sectors in which an information sheet was provided).*
- ☐ Yes
☐ No
☐ Somewhat
42. Did it influence any of your answers after it was given to you?
- ☐ Yes
☐ No
☐ Somewhat

HAMILTON PUBLIC LIBRARY



3 2022 21334063 7